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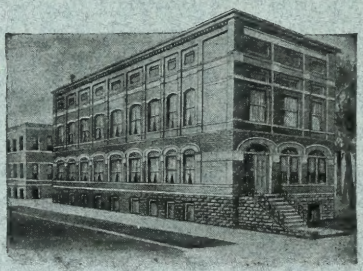

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TABLE OF CONTENTS

ORIGINAL ARTICLES.

1. The Surgical Aspect of Stone in the Kidney. By *J. A. Crisler, M.D.*, Memphis, Tenn..... 399
2. Tumors of the Urinary Bladder. By *E. M. Sanders, M.D.*, Nashville, Tenn..... 402
3. The Reflexes in Hysteria. By *Tom A. Williams, M.B., C.M.*, Washington, D. C..... 406
4. Zoological Aspect of Uncinariasis. By *W. S. Leathers, M.D.*, University, Miss..... 409
5. Ectopic Gestation. Case Report. By *J. H. McNeill*, Olive Branch, Miss..... 412
6. Treatment of Retro-Displacements of the Uterus. By *Lucius E. Burch, M.D.*, Nashville, Tenn.. 412
7. Convulsions in an Adult from Copremia. Report of a Case. By *Philip Norris, M.D.*, Rutherfordton, N. C. 414
8. Toxemias of Pregnancy. By *Geo. C. Trawick, M.D.*, Nashville, Tenn..... 418
9. Sprained Ankle. By *Dr. Duncan Eve, Jr.*, Nashville, Tenn. 420
10. The Cure of Tuberculosis by the General Practitioner. By *Dora Lee Wilder, M.D.*, Knoxville, Tenn. 424

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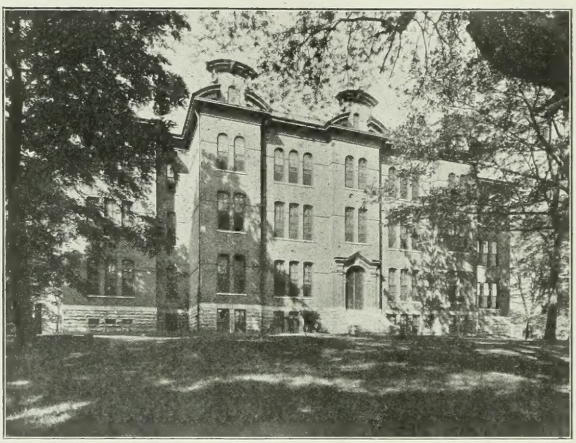

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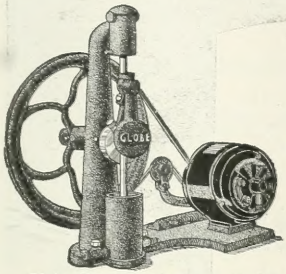

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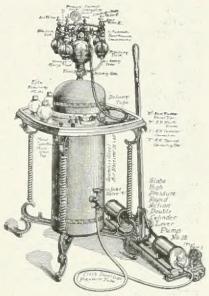

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TABLE OF CONTENTS—Continued

SELECTED ARTICLES.

1. Report of the American Proctologic Society 428
2. The Real and Moral Aspect of Abortion. By *Mr. Sigmund Zeisler* 446
3. The Methods of the Professional Abortionist. By *Rudolph Wieser Holmes, M.D.* 450
4. Forensic Diagnosis of Criminal Abortion. By *Maximilian Herzog, M.D.* 455

EDITORIAL.

1. The Dangers in the Use of the X-Ray 463
2. The Prevention of Tuberculosis 464

BOOKS.

Book Reviews 465

ABSTRACTS OF CURRENT LITERATURE.

SURGERY—
Diagnosis and Treatment of Stricture of the Male Urethra 465
Gonorrhea and Sterility 462
PUBLISHER'S DEPARTMENT 466

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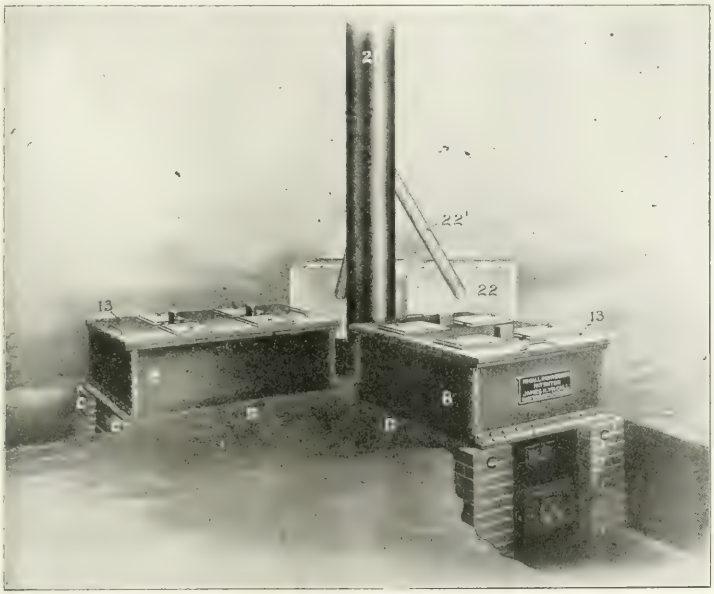

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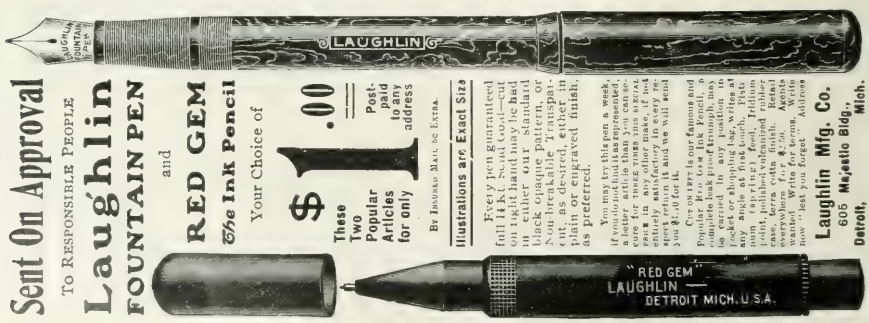

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ORIGINAL CONTRIBUTIONS

THE SURGICAL ASPECT OF STONE IN THE KIDNEY*

By J. A. CRISLER, M.D.,
Memphis, Tenn.

In order to meet the demands of this modern civilization, with its airships and wireless telegraphy, things surgical must be lifted from the stratum of guesswork and uncertainty and elevated to a degree wherein accuracy and exactness eliminate all speculation.

In dealing with nephrolithiasis we are brought face to face with a multitude of surgical problems that have long been a baffling puzzle to both physicians and surgeons for many ages. The greatest source of uncertainty, as is common with all human ills, has been found to lie in our inability to make an accurate diagnosis of stone in the kidney .

We have tried hard to interpret the symptomatology and have found that this cannot be done except in the very rare typical cases. We have found that the diagnosis is not "a one man job," and I full agree with Dr. Bevan, that this condition offers the best opportunity for team work. In other words, the surgeon like the surgical part of the work, must come in last.

In the first place, clinical features of the case must be thoroughly studied and analyzed and an effort must be made to comprehend and classify the manifold symptoms that may be present in any individual case. The symptoms presented may be few or many, for be it understood that a stone in the kidney, like stones in its neighbor, the gall bladder, may or may not be productive of symptoms sufficiently pronounced as to invoke medical or surgical aid.

That nephrolithisis does exist as a primary condition wherein the stone formation occurs independent of any apparent pathological changes in the kidney per se or secondarily as a result of a pathological state of the kidney, which has induced the formation of stone, the situation is not materially altered so far as concerns the diagnosis.

The symptomatology enjoys a range of such a widespread nature as to probably place this condition in a class entirely its own, and I might say that in none of its numerous phases can we find an unaltered train of symptoms that could be called fairly pathognomonic, and just here is where the one man worker encounters his Waterloo.

The etiology of renal calculi has never been satisfactorily demonstrated. Beaver (1) is inclined to the opinion that the causative factors are found in a low grade mycotic infection and like gall stones, can be produced from the infections of the typhoid or colon bacilli.

Cunningham and Watson (2) suggest the cause of kidney stone to be due to some of the abnormally performed steps of body metalbolism, following which crystals of some of the urinary salts in excess appear in the urine as formative elements of renal calculi.

One of the difficult problems in the etiology is trying to account for the various differences in the composition of stones. Some are composed mainly of calcium ovalate, some are uric

*Read before the West Tennessee Medical Society.

acid, some phosphatic and others mixed in various proportions.

Johnson (3) suggests that if an organic nucleus is necessary, such may consist of a single degenerated blood cell or the minutest fragment of mucus.

The symptomatology is interesting and delusive. Pains can be found, caused by renal calculi anywhere from the shoulderblade to the sole of the foot. The anterior crural nerve is frequently affected. Pain in the bladder and in the genitalia, in the groin and in the loin belong to this condition. An acute pain caused by a stone obstructing the ureter may produce shock, nausea and vomiting, with referred pains any or everywhere, similar to a Dietl's crisis. Beaven has concluded that this pain is due to intrarenal pressure, caused by a sudden blocking up of the kidney outlet and not to the passage of the stone through the ureter, which he declares positively causes no pain whatever. In making the differential diagnosis between a renal colic due to an occulsion of the ureter and causing a sudden accumulation of urine in the pelvis of the kidney, we must invoke th eaid of the internist, the microscope and the X-Ray, because the symptoms might be those of many other conditions, particularly where the stone is situated in the right kidney or ureter, it is likely to be confused with or mistaken for an attack of appendicitis. Even a man with broad experience in dealing with these two conditions is not immune from error when it comes to their differentiation, and in some cases the greatest possible caution and care must be exercised and every available means must be brought to bear before an exact separation can be made.

Some patients present only bladder symptoms and in one of my cases referred to me by Dr. A. E. Cox, of Helena, Ark., the patient had been subjected to a supra-pubic cystotomy in the hope of finding a stone present in the bladder before Dr. Cox saw the case. Sometimes the pain is situated in the opposite kidney; sometimes in the knee or in the heel and many times a diagnosis of pleurisy or pneumonia has been made where the pain was situated above the diaphragm.

All of the authors have agreed upon the infinite value of the X-ray in locating a stone and clearing up the diagnosis. This part should be in the hands of an expert Roentgentologist, who should not only be capable of making a picture of the stone, but who should also be fully prepared to interpret the various gas shadows and other discrepancies that may occur in the skiagraph. Some have suggested that it is even necessary to pass a leaded uretal catheter in order to determine the exact location of the ureter in relation to the stone, as other calcarious deposits near the higher urinary tract may cause confusion. Kelley's waxed tipped catheter may be of use in the hands of a very highly trained cystoscopist. It is pointed out that all of the various stones can be located with the X-ray with much facility with the exception of the pure uric acid stone. This, like gall-stone, does not manifest itself in the picture, but fortunately pure uric acid stones are rarely, if ever found, as they are generally mixed enough with some of the other elements to give at least a faint shadow which has a wonderful meaning to the well trained Roentgentologist.

A competent X-ray man and a competent cystoscopist and microscopist are just as necessary as a competent surgeon in dealing with these conditions and trying to make an accurate diagnosis.

We need all the help we can get, for as Leonard (4) says, the "specialists or diagnostician, so self-centered as to be blind to the worth of other methods and so egotistic as to admit no chance for faults in his own, is the slave of an optimism that robs him of any authority to speak in his own department."

Cystoscopy and X-ray examinations have offered us a great benefit and have made it possible for us to make clear, positive diagnoses in nearly all, if not quite all, of these cases. This is a wonderful step forward and will redound to the good of the sufferers of this terrible and hitherto uncertain malady.

With a positive diagnosis then at our command, we can offer these unfortunates relief by operation and positive assurance of as good results as we can expect in the surgery of any of the other organs.

Where the stone is primary, one of the two principal operations of attacking it may be chosen. If it is of small size the thin pelvic wall of the kidney may be opened and the stone removed without doing damage to the kidney structure. After its removal the rent is closed by carefully applied catgut sutures. If the stone is large, filling up several of the calyces, it cannot be brought out through the small pelvic outlet, in which case pyelotomy is forbidden. The best route of attack for the large stone will perhaps always remain through the nephrolithtomy incision, wherein the kidney is opened on its convex border just a little posterior to Brodel's line. At this point it is said that the kidney structure is the least vascular and offers the best opportunity for incision. This incision, of course, extends through the cortical and medullary substance of the kidney down into the pelvis and may be as long as desirable. In some cases it is necessary to lay the entire kidney well open so as to expose every part of the calyces and pelvis. Of course, if the stone is of secondary origin, that is to say, found in a kidney that is already carcinomatous, sarcomatous or tubercular, the operation of nephrectomy will have to be considered.

It is sometimes indeed surprising to find a very large stone that has been practically symptomless and on the other hand one no larger than an English pea may cause all kinds of suffering and invalidism.

In one of my cases referred by Dr. Jernigan, of Obion, Tenn., the patient, a lady, had been an invalid for a year or more, due to the partial occlusion of the ureter just where it leaves off from the infundibulum of the pelvis. Fortunately the stone was quite small and did not wholly occlude the ureter at all times, yet any effort upon the part of the patient would cause the stone to become tightened in the ureter sufficiently to produce a good deal of pain and thus the patient was made bed-ridden for fear of precipitating an attack upon the slightest exercise. When I opened the kidney I found it to be practically healthy, which showed that the occlusion of the ureter had never been sufficiently long to cause any serious trouble. In trying to get the stone it escaped from me and went on down in the ureter and two days later was passed through the urethra. The patient, however, had no further trouble and has since remained perfectly well.

I had the same experience with another patient referred to me by Dr. Duvall of this city, and the same results were obtained. It is possible that the manipulation accompanied by the relaxation incident to the anesthetic caused these stones to get away from me and descend through the ureter with safety and be finally delivered. I would have been led to hope that these cases might have terminated favorably without an operation owing to the small size of the calculus, had it not been for the fact that one of the patients had, as above stated, been bed-ridden for a year. I mention this to emphasize the fact that we should be very careful not to leave any particle of the stone in the kidney during an operation. The smallest piece may form a nucleus for a large one or without itself becoming larger, may cause just as much pain and discomfort as a stone the size of a hen's egg.

The question of what is best to do with these small stones naturally arises, and I would answer this by saying, that all sorts of medical treatment should be tried before subjecting them to an operation, hoping that the stone might pass. Some have recommended the injection of a little cocaine or its equivalent, immediately below the stone by means of a uretal catheter or perhaps a little sterile olive oil or almond oil would suit some cases better. Turpentine when given by mouth has been found of value in allaying the irritability. Various mineral waters have been recommended. These with strict observations of a diet course

and abstinence from alcoholic and malt liquors, probably offer the best hope of a cure than anything in the medicinal line. Operations should not be postponed unduly, as we must remember that there is always great danger of a complete occlusion with its subsequent evils wrought upon the kidney itself, due to increased intra-renal pressure, followed by atrophy of the kidney in many cases.

My operative experience has been confined to nine cases, all of whom recovered without any apparent calamity to the kidney function. The mortality should be practically nothing, if the usual surgical precautions are observed. Too much care, however, cannot be exercised in arriving at a diagnosis, depending for this largely upon first class X-ray work.

Careful uretal catheterization and accurate microscopical investigation of the urine, and good, safe, sound clinical judgment, coupled with your surgery.

1. The Journal of the American Medical Association, Vol. LIV, No. 9. Arthur Dean Beavan.
2. Cunningham & Watson, Genito-Urinary Diseases, Vol. 2.
3. Johnson's Surgical Diagnosis, Vol. 2.
4. Chas. Lester Leonard. The Journal of The American Medical Association, Vol. XLIX. No. 13.

Peabody Hotel.

TUMORS OF THE URINARY BLADDER.*

By E. M. SANDERS, M.D.,
Nashville, Tenn.

Tumors of the bladder are rare, but when they do occur they are so fatal with or without attention that the early diagnosis and radical treatment becomes one of unusual interest. Kuster says that about one-fourth of one per cent of all tumor work is for tumors of the urinary bladder, and Alberan tells us that Necker found four per cent in genito-urinary surgical cases.

They are most frequently seen between the ages of fifty and sixty years, but may appear in infancy or in old age. They are five times as frequent in the male as in the female.

The etiology is no better understood than tumors located elsewhere. The chemical irritation theory has been adhered to by many writers as a large per cent has been noted among workers in aniline and other dyes. The particular phase of this question, however, which is most interesting to us is whether or not mechanical irritation, such as the introduction of sounds and catheters is a causative factor. After going over the literature thoroughly I find that it is universally believed that such irritation, or preceding diseases of the bladder, the presence of stone or retention, does not predispose to tumor, except chronic ulcers and where a malignancy is secondary to some primary focus, such as cancer of the prostate. The relationship between stone and tumor has not been settled. Some authorities claim that the presence of stone is a predisposing cause; others claim that tumor predisposes to stone.

Rosenow says the etiological relationship between calculus and tumor cannot be denied altogether and that calculus seems to favor the development of tumor in a larger percentage of cases than tumor favors the development of stone. However, Guyon, Alberan, Nitze and Lincoln Davis all claim that stone in the bladder is not an etiological factor of importance. But the fact that tumor does favor the development of stone in many cases cannot be denied, as the secondary changes in the bladder which inevitably sooner or later develop in the presence of tumor furnishes the very conditions which are most favorable to the formation of stone. The well-known frequency of calcareous incrustation of tumor is unmistakable evidence of this fact. Cases have been reported where stone has been found

*Read before the Nashville Academy of Medicine, July 5, 1910.

formed around detached fragments of tumors. It is interesting to note that out of 438 cases operated on for stone in the bladder in the Boston General Hospital, only one case subsequently developed a tumor; and in forty-two cases of primary tumor of the bladder collected by Davis, there was an association, either past or present, of true calculus in eight cases, which shows that in about twenty per cent of his tumor cases stone existed.

Cases have been reported where tumors of the bladder were present for a quarter of a century before the patient died of some intercurrent disease, but as a rule after the diagnosis is made the patient succumbs in from one to three years, dying of the complicating cystitis, pyelitis, exhaustion or metastasis.

A very large percentage of these cases is not referred to the general surgeon or the genito urinary specialist until the condition is inoperable, which fact should stimulate us to diagnose these cases and operate on them before it is too late, as we are now doing for malignancy of the breast, stomach, etc. If we did not have the perfected electric cystoscope we might offer some excuse, but with the aid of this valuable instrument tumors of the bladder can be positively diagnosed, not only as to their presence, but also as to their location, extension, multiplicity and sometimes pathology.

The general practitioner should not be expected to become an expert cystoscopist, therefore we must hope for relief from our present embarrassing statistics by bringing before the general practitioner the great importance of having a cystoscopic examination made in all suspicious cases, wherever bladder disturbances such as frequent urination, terminal hæmaturia, a slight hemorrhage after overexertion, and especially a "symptomless hemorrhage" which is so pathognomonic of tumor are found. As slight hemorrhage may occur from time to time without the notice of the patient, one should not trust absolutely on the hemorrhage to appear before investigation.

There may be pain in the region of the kidney, due to the damning back of urine, as there are ureteral changes in a large per cent of these cases, and Fenwick claims in all of them. Therefore he wants us not to examine the patient until the hemorrhage has cleared off, and then to use the urine naturally accumulated in the bladder as a medium when possible. This is especially important when cystitis and pyelitis exist.

In the exact study of these neoplasms the cystoscope is indispensible, but we must not forget that some danger attends its use, especially in the hands of the amateur, and care should be taken not to over-distend the bladder and the utmost gentleness should be exercised. Fowler reports a case where the use of an air dilating cystoscope so aggravated a hemorrhage caused by a very small tumor that the patient bled to death. The hemorrhage from these cases usually ceases of its own accord, but in about six per cent the bleeding is alarming. As a rule the hemorrhage is the first symptom the patient notices and precedes the stage of cystitis in eighty-four per cent of cases. It may cease within a few hours or days, and not recur for even weeks or years; then, without warning, the blood reappears. Little information can be gathered as to the malignancy of the growth from the character of the hemorrhage, but Casper says that it has been his experience that a constant hemorrhage means a well-established malignancy.

In fifty per cent of the cases reported by Davis the first symptom was hemorrhage, and present in all but one. The stage of cystitis may come on rapidly, or may not appear for years, but when it does come it not only brings great distress to the patient, but raises the mortality rate if operation is done. Fenwick says that cystitis without hemorrhage comes in ten per cent of cases.

Pathologists and surgeons classify these neoplasms various ways as to the tissue from which they spring, their microscopical appearance and characteristics, but to the patient practically all tumors of the bladder are ma-

lignant, as they usually destroy life rapidly and with great suffering.

About eighty-five per cent of all bladder tumors are of the papilloma variety, more than half of which are carcinoma when removed. This large per cent of malignancy can be accounted for by the fact that in most cases, the tumor has been present so long that sufficient time has elapsed in which malignant degeneration could take place. The constant irritation of the villi and base of a benign papilloma by the function of the bladder must tend to promote this malignant degeneration.

The smooth surface tumors of the bladder are usually malignant from the beginning, they may be sarcoma or carcinoma, or they may be rare pathological curiosities such as myoma, myxoma, fibroma, etc.

In 1905 Wilbur collected fifty cases of primary sarcoma of the bladder. He says they are most common in childhood, and that they are more rapidly fatal in children than in adults. They are usually sessile, single at first, but later becoming multiple. Metastasis is slow compared to the time for the same process to be established from cancer in other locations of the body. Carcinoma which is not of the papillomatous variety is very rare, and when it does occur, it is usually secondary to carcinoma of the prostate, uterus or rectum. Mandelbaum claims that fibro and adeno-carcinoma are practically always secondary to primary cancer of the prostate and that the original focus may be so small that detection is difficult.

Infiltration sufficient to be detected by rectal or vaginal examination may occur within two months after the first symptoms appear, but in fifty per cent of cases it will be about a year, and in eighteen per cent of cases, this sign cannot be found after two years, which fact shows us that we should not depend upon this procedure as a method of diagnosis.

Inasmuch as these tumors are so prone to become malignant and as the diagnosis is usually made late, palliative treatment should not be recommended, except for the relief of distressing symptoms, until a radical operation can be performed, as palliative measures subjects the patient to the dangers of cystitis, pyelitis, metastis and perforation. When the diagnosis is made a radical cure should be undertaken if such is possible in the judgment of the operator, who must be guided in the choice of operations by the variety, size, location and multiplicity of the neoplasm. A small pedunculated papilloma may be successfully removed by the operating cystoscope by the most skilled, but this method is not to be recommended to the general surgeon, on account of the delicacy of the procedure, and the expert should use it with great care, inasmuch as the base of the tumor or a fragment may be left behind to recur or become malignant.

The perineal and vaginal routes are seldom, if ever, feasible, therefore we must adopt the supra-pubic route where the tumor springs from the vault or walls or the bladder. But as about 75 per cent of all tumors have their attachment near the trigone, the abdominal route should be chosen, this method offers us by far the greatest hope for a permanent cure. In this way practically all of the bladder wall can be inspected, which is important, as small papilloma fall to the side of the bladder when it is empty, and may be overlooked when one is working through a supra-pubic incision. It also allows the operator to remove the base of the tumor, preferably with the cautery, or resect the bladder wall, which is the most important factor in the permanency of the cure.

The hemorrhage can be more satisfactorily controlled and the whole operation done more exactly on account of the great ease with which instruments can be manipulated in the bladder. This method also affords the opportunity of a thorough examination of the Iliac Glands and Abdominal Viscera, so the operator can ascertain whether or not the malignant deposits have extended beyond the immediate glandular apparatus before he opens the bladder, which, if he finds to be true, should prompt him to deter from undertaking a rad-

ical extirpation of the growth, and be content with doing a supra-public or perineal cystotomy for relief of symptoms. The bladder wall can best be resected by this method, and if one or both of the ureteral orifices are involved, the ends of the "ureters" may be reimplanted into the vertex of the bladder.

The following frightful statistics, as given by Watson, prompt us to approach bladder surgery with great caution. Out of 679 cases reported operated upon by the supra-pubic route an immediate mortality of 11 per cent followed the operation, where benign tumors were dealt with, and 35 per cent where the growth was malignant. And, taking the sarcoma alone 43 per cent died. Where partial resection of the bladder was done 22 per cent died, and 28 per cent of the benign and 65 per cent of the malignant tumors recurred.

Rafin gives the results of ninety-six partial cystectomies done for tumore of the bladder by the supra-pubic route with twenty-one immediate deaths; twenty-five could not be traced, and of the remaining fifty only five remained well after three years. I believe that when we diagnose these cases early and treat them properly these figures will be greatly modified.

While this proves the possibility of cure of carcinoma of the bladder by supra-pubic partial cystetomy, it is very discouraging. The diagnosis has been made too late or the operation has been faulty. It is very encouraging to have Judd report fifteen cases of bladder tumors, nine of which were malignant papilloma, three true carcinoma, and three probable malignant papilloma, operated on by the abdominal route, with only one immediate death. This patient died from uremia at the end of the first week. Six of these patients have now lived over one year with no evidence of recurrence.

This report should give us a new impetus along the line of radical treatment for tumors of the bladder, and stimulate a greater interest in the perfection of what must come to be the choice operation for nearly all cases. If an old standing cystitis is present it is safer to do the operation in two steps, first open and drain the bladder through a supra-pubic or perineal incision for a sufficient length of time to obtain a clean field, and then do a radical operation and maintain the original drainage as long as thought best in the individual case. If the Iliac lymphatic glands are enlarged they should be removed, and although it may be necessary to resect so much of the bladder that two-thirds of its capacity is taken away, it will answer the purpose, and, according to Harris, will enlarge.

Drainage is not always necessary, but in most cases it should be established, either through the urethra by means of a self-retaining catherer or through the space Retzius, and the intra-peritoneal suture line should not be drained. In cases of carcinoma where one is suspicious of the prostate it should be removed. Complete cystectomy with implantation of the ureters into some abdominal viscus is a desperate procedure and is not to be recommended, as these patients soon die of an ascending pyelitis, and as recurrence following complete extirpation is about as frequent as that following resection, and the immediate mortality much greater.

CONCLUSIONS.

1. A Symptomless Hemorrhage means tumor of the bladder until excluded by the cystoscope.
2. Palliative treatment should not be undertaken, and when the diagnosis is made a radial operation should be performed.
3. All cases should be carefully cystoscoped before operation.
4. All tumors of the bladder should be considered malignant from the patient's standpoint, and treated accordingly.
5. The Intra Peritoneal route is the operation of choice in about three-fourths of the cases and should be used when in doubt, except by the most expert operators.

169 *Fourth Avenue, North.*

THE REFLEXES IN HYSTERIA.*

By TOM A. WILLIAMS, M.B., C.M. (Edin.),

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Washington, D. C.

The criterion of selection in hysteria being the difference of sensibility in the two halves of the body, P. C. Knapp* made a study of the tendon and cutaneous reflexes in a hundred cases of this disorder. Most of the cases also showed weakness in the hypoæsthetic side. Knapp defends his principle of selection by the usefulness of the patient's comparison of the stimuli in tabes, nerve injury and cerebral hemorrhage—hardly comparable problems. He criticises what he calls Babinski's "cruder" methods, making the statement that he has found total anæsthesia rare, as is also total paralysis. n This experiece is unusual; and Knapp should know that Babinski's faradic test has only been applied when anæsthesia is complete. Thomas' and Meige's well-known explanations of the distribution of hysterical sensory loss are stigmatized as "amusing bits of special pleading." The former believes that hemianæsthesia is commoner than paranæsthesia because in testing the sensibility one arm is usually compared with the other arm and not with the leg; and similarly the legs are compared to each other and not to the arm. Meige points out that the examiner finds the left side of the patient opposite his own right hand and hence is most likely to, and, indeed usually does, prick this first in asking the question, "Do you feel?" Hence the implied suggestion that the patient may *not feel* is usually made upon the left side first, and thus is implanted there, constituting a left-sided hemianæsthesia—the commoner distribution.

Knapp implies that others reject comparative tests of sensibility in hystericals for fear of suggestioning. This is not always the case, but it is true that the greatest caution must be used before accepting the dicta of hysterical patients regarding their sensibility. A technician who is aware of when a suggestion is being made and received may institute such comparisons in the investigation of a case.[1]

Knapp also states that there is no definite criterion for the diagnosis of hysteria, as he does not accept that of Babinski. It seems hardly logical to diagnose a disease "without definite criteria." Surely all medical science is busied in a search for these. To the impartial, the very criterion which Knapp adopts, unilateral difference of sensibility, seems only to confirm Babinski's[2] *pithiatic* explanation thereof, for most good observers below a certain age, after which it is hard to change ideas, admit that in most cases suggestibility must be invoked as the cause of the *majority* at least of hysterical symptoms.[3]

It is curious, too, that anæsthesia in one's patients is inversely proportional to one's skepticism as to its validity apart from suggestion. I have frequently changed the careless "no" of a patient into the accurate "yes" of truth, which I should surely not have attempted had I been among the credulous of the classical viewpoint. Furthermore, I have often had occasion to demonstrate to a medical attendant that a patient from the very fact of saying "no" signalized that a stimulus was perceived; and it is still easier for the patient to sway a comparison either at haphazard or in a desired direction. Prince has urged that in "certain states of dissociation there occurs an anæsthesia which cannot be modified by sug-

*Journal of Nervous and Mental Diseases, February, 1910.

[1]The Sensibility in Disease. Amer. Jour. Med. Society, 1909, April.

[2]"Ma Conception de l'Hysterie." Paris, 1906.

[3]Author "The Nature of Hysteria," Int. Clinics, 1908, Vol. III. "The Clarification of Hysteria," Boston Med. Jour., 1909, March; Monthly Cyclop., April, 1909; "Essentials of H.,' N. O. Med. Jour., June, 1909.

gestion." But this objection is met by the fact that the patient's whole so-called second state is one huge suggestion of which the anæsthesia is a part, firmly associated with the notion of a second personality, and only removable along with this, until indeed some fresh idea (a substitution) is introduced to dissociate the anæsthesia from that personality, a performance of no great difficulty *when the right suggestion is employed*. One may compare the rather childish exhibition of the hypnotist whose subject will insist upon swimming in the imaginary water in spite of all the exhortations of his hypnotizer until the latter, by "the magic word," causes him to change his role.

He found more exaggeration of the tendon reflexes than exists in healthy people under excitement, as in runners before a Marathon race, of whom 90% show patellar twitch. Upon the basis of a "larger number" he concludes that "hysteria, like neurasthenia, may cause moderate exaggeration of the tendon reflexes." (To the reviewer "large number" seems a somewhat vague ground on which to build a pathogenesis.)

Knapp is justly skeptical about true clonus and lost knee jerk in hysteria, and yet believes that the temporary loss found after extreme fatigue in Marathon runners may indicate that "conditions of exhaustion in hysteria may abolish the knee jerk." Would it not be more reasonable to say that conditions of exhaustion, with or without lost knee jerks, are apt to produce a hysterical state?

Fifty-seven times, the reflexes of the two sides differed; thirty-seven times for the knee jerk, and thirty times for the ankle jerk (sixty-seven in all. T. A. W.). It was twice as often greater on the anæsthetic side. Six cases showed unilateral spurious clonus. No quantitative estimates are recorded, and the nature of the spurious clonus is not described. The plantar reflex was absent or diminished in forty-seven cases; the fan reflex was not found. Out of fifty-one cases the abdominal reflex was lessened in twenty-four.

Thus, of the whole series, seventy-six showed a difference; skin reflexes, when altered, being so on the anæsthetic side, while the tendon reflexes there were often increased, though sometimes diminished.

These results, "seem to contradict the claim of Babinski 'that hysteria is incapable of modifying the skin and deep deflexes,' and are an argument against his doctrine of pithiathism."

Knapp has not considered the fact that any organic state which may or may not change the reflexes may also increase hysterizability. In this regard, critics should recall Ashley MacKintosh's analysis of insular sclerosis* and Cushing's remarkable report that every one of a hundred cases of cerebral neoplasm had been at first diagnosed as hysteria. General intoxicative states, too, and even the menstrual period, greatly exaggerated hysterizability. Nor are the neurones on each side of the body always equally affected by the former. Even cardiac and renal œdema is sometimes unilateral, in the viscera as well as in the subcutaneous tissue.

But there is another factor in the case, viz., the modification of the apparent reflex response by the volition of the patient. No one who has carefully studied hysterical patients can fail to be impressed by their exaggerated behavior in response to many of the solicitations of a clinical examination. The tongue may tremble, the hands be unsteady, the voice quiver; the urine may spurt, the bolus strangle in the pharynx, the respiration be intermitted and shallow or sighing; even tachycardia, palpitation and globus may occur. All these symptoms, it is true, are emotional, and in themselves have nothing to do with hysteria. But they are an index of hysteria in that they occur on account of the *suggestion of alarm* which the clinical examination affords. It is a case of "nervousness" (apprehension) by suggestion.

Similarly it is almost impossible for some

*Journal of Neurology and Psychology, 1 07

people to refrain from tightening the muscles of the limb which the examiner handles, and no inconsiderable part of neurological technic is comprised in means for obtaining relaxation while the reflexes are explored. When diminution is apparent it is very easy even for a skilled observer to mistake for a diminution of a tendon reflex what is only a quasi-involuntary inhibition of the relaxation of the muscles antagonistic to those concerned in the reflex, which indeed themselves are sometimes tonically contracted to some degree.

When it concerns a seeming exaggeration, an experienced clinician remembers that it is not uncommon for patients to respond *before the hammer* touches the tendon, and although no neurologist worth the name would be deceived by this manœuvre, yet the more refined degrees of the same mechanism are not so easy of detection.[4]

The quasi-involuntary innervation of a physiological muscle group is quite possible and is most difficult to detect unless a patient's attention can be completely distracted, an almost impossible feat in some cases of fixed ideas; for the mental attitude is a positive and not a negative one and persists even in sleep in many cases, as Janet's and Freud's work has shown. Of course it is hardly likely that the suggestion of a reflex should be looked upon as of much importance as to beset even one's sleep; but it is of enough activity, once constituted, to surge into activity as soon as aroused by the stimulus of the preparations for testing the jerks. Hence their exploration during sleep, it seems, might afford a valuable criterion as to the alleged alteration of tendon reflexes in hysteria.

It is most significant that the present methods have given quite opposite results in the hands of Dana to those now published by Knapp.

Regarding the cutaneous reflexes I notice currently a frequent difference in the response of the abdominal muscles as soon as the patient's attention becomes directed to what is taking place. Of the same mechanism, perhaps, is the familiar experience that everyone can much modify the almost irresistible impulse to recoil when his abdomen is suddenly threatened by some too playful friend.

Knapp, who is a most careful observer as well as sound critic, as may be seen by his remarkable paper on Dementia Precox[5] as a chronic intoxication psychosis, which shows too that he is not afraid of orthodoxy, may have anticipated these objections. But there is no remarks in his paper, explicit or implicit, which indicates that he has done so nor gone beyond the principle of selection he mentions, viz., difference of cutaneous sensibility as expressed upon interrogation, surely an inadequate basis for conclusions of such importance.

1758 *K. St., N. W.*

[4] Author "Simulated Hysteria," to appear in Am. Jour. Insanity, October, 1910.
[5] Jour. Nerv. and Ment. Dis., 1909.

ZOOLOGICAL ASPECT OF UNCINARIASIS

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An important principle in the correct diagnosis and treatment of disease is to determine its cause. It is evident that diseases are produced by many and varied agents, but he who would most successfully treat any disease must acquaint himself with information pertaining to the controlling factors of the causative agent. It is essential, therefore, that the physician and layman in the study of uncinariasis or hookworm disease become informed relative to the parasitic animal which is known to produce it. It will then not be improper and out of accord with the purpose of this paper to state briefly and rather in a popular way facts bearing upon the history, zoological position, habits, morphological features, distribution and the development of the hookworm.

It seems quite likely that the ancient Egyptians were acquainted with parasites similar to those which are at present known as hookworms, some thirty-five hundred years ago. But it was not until 1782 that this parasite was made known to science. The credit of this discovery is due to Goeza, a German clergyman, who found it in the intestine of the common Badger of Europe. He called it "the hair round worm," and assigned to the parasite the Latin name "Ascaris criniformis." It was at the time placed with the group of eel worms, or "Ascaris Lumbricoides;" however, it was intimated that the animal belonged to a distinct genus. He described an anatomical feature of considerable interest as a membranous expansion on the tail or posterior end of the body, having two finger, or ray-like projections extending into it. Goeza regarded these projections as hooks.

In 1789, Froelich made known a similar parasite in the intestine of the common fox of Europe. This possessed characteristics closely allied to the parasite which was found by Goeza. It had the membranous expansion on the end of the tail and projecting through it "two rays with many points." Because of the presence of these rays in the membranous expansion on the posterior end of the body Froelich designated it as the hookworm, and gave to it the generic name Uncinaria. This membranous expansion is now known to be a caudal Bursa which is peculiar to the family, and the ray-like projections are merely for support and are in no sense hooks. So it is obvious that the term hookworm is incorrectly applied so far as this structural feature is concerned. This parasite was found during the early part of the nineteenth century in the intestine of a number of animals, but many years passed before any one suspected that such would ever be found in the human body. It remained for Dubini, of Milan, Italy, in 1843, to discover the hookworm as an unwelcome guest in the intestine of man. He not only observed two ray-like projections in the tail, but also noted four processes guarding the entrance into the mouth. There are those who endeavor to account for the name "hookworm" by the processes guarding the mouth opening, but this is by no means a constant characteristic. It is true that the head of the worm curves up to a slight degree but this is not a distinguishing feature, and therefore the hook-like curvature of the head could not be used as a proper explanation for the name. Then the vernacular name "hookworm" is a misnomer, but owing to its long use it would perhaps be well to retain it. In May, 1902, Dr. Charles Wardell Stiles, discovered the first American species of the hookworm inhabiting the intestine of the human being.

It is reasonably apparent that Dubini was not correctly informed with reference to the discovery of Froelich in 1789, and so gave the generic name "Anchylostoma" to the parasite,

which he found in the Italian, so the "Old World" hookworm came to be call "Anchylostoma duodenale," while the "New World" hookworm was named by Dr. Stiles Necator Americana, or the "American Murderer." This name is significant of the fact that the parasite causes a large number of deaths, either directly or indirectly.

The class of worms may be divided for convenience into two groups, the flat and the round worms. Each of these groups may be subdivided into those that have an alimentary canal and those which are devoid of a digestive tube. The common leach is an example of the flat worm which has an alimentary canal, and the tapeworm serves to illustrate one devoid of such a canal. The thorn headed worm is an example of a round worm without an alimentary canal while the hookworm is a type possessing a digestive tube.

The hookworm lives during the greater part of its existence as a parasite in the intestine of man. It spends its adult life attached usually to the lining of the small intestine, but it may be found adhering to the mucous membrane of the stomach. There may be present a few, several hundred, or even thousands, sucking the blood of the unfortunate victim. The worm attaches itself by puncturing the lining of the intestine by hard plates or jaw-like teeth. From time to time it may become detached and again becomes attached to fresh spots of the mucous membrane, until the lining of the digestive tube is literally riddled and highly inflamed. The loss of blood is not only due to its being sucked into the body of the parasite, but bleeding point sare left which also permit the invasion of bacteria. The mucous membrane as a result becomes thickened, which retards absorption and depoverishes the blood of its nourishment. In addition to the loss of blood, the parasite secretes to a certain degree a toxin which is supposed to account in part for the clinical symptoms. According to Bohland investigations on the question of metabolism of man infected with the hookworm indicates that the increased breaking down of proteids in the body is due to the toxin secreted by this parasite.

The hookworm is of small size, varying from one-fourth to one-half an inch in length. The color is a dingy white. The head end is somewhat blunt and the posterior end is pointed. The ventral surface of the head end grows faster than the dorsal aspect, and this accounts for the hook-like curvature of the head. The sexes are separate. The male is about half the size of the female. It appears that the female exists in somewhat larger numbers than the male. The female deposits her eggs in the intestine and they are eliminated with the excreta. This point indicates the most valuable mode of diagnosis and shows clearly the source of infection, and points in no unmistakable terms to the method of eradication.

The length of life of the hookworm inside the body is necessarily controlled by a number of conditions, and as a consequence the problem of determining how long the animal lives in the body is not without difficulty. Dr. Stiles states that in one patient the evidence is at hand indicating that the parasite lived in one host six years and in another six years seven months. In an address before the Southern Health Conference recently convened in Atlanta, Ga., Dr. Stiles makes reference to an investigation relative to two cases reported to him, both southern men, one a banker in New Jersey, and the other a sailor plying across the Great Lakes. Each of these men have lived in their respective localities from ten to eleven years and have been so far as can be determined free from all sources of infection during this time. In the event these patients prove to have contracted the disease while living in the South, it is obvious that the parasite may live in the body for a much longer period than formerly supposed.

The presence and distribution of the hookworm in America is largely favored by the following conditions: 1. The Negro. 2. The Climate. 3. The Soil. 4. Moisture and Shade. The parasite has existed for many

generations in Africa and thus the negro has been for a long while associated with the disease. Owing to this constant association he has become relatively immune to the effect of the disease. As a consequence the black man rarely comes under the observation of the physician for treatment. There are in the rural districts of eight of the Southern Statess 833 negroes to every thousand whites. A large proportion of the negroes are infected and so represent so many reservoirs for its dissemination. Thus it appears that the negro is not only responsible for its spread, but it is highly probable that he is accountable for its origin in America. It is clear that from the standpoint of public health questions the negro should receive the most serious consideration by the white people of the South.

Warmth of climate is also essential for the proper development of the hookworm. It is, therefore, a disease peculiar to tropical and sub-tropical countries. For this reason it is not unnatural to find the hookworm distributed in this country in an alarming manner throughout the Southern States, and so it is justly referred to as a southern disease. It is true that there are cases found infected with the parasite north of the line corresponding to the Potomac and Ohio rivers, but these individuals doubtless once lived in the South, or at sometime visited this or some other section of the globe infected with the parasite.

The worm develops in the most prolific manner in a loose soil, especially one of a sandy nature. On the other hand, it is greatly retarded in growth and development in a compact, hard, clay soil. Because of this soil relation it is practicable to study its distribution with reference to soil conditions. There are, roughly speaking, three belts extending through the South with varying proportions of hookworm disease. The mountain district, the clay zone and the sand or coast region. The percentage of hookworm disease in these three belts varies approximately from five to ten per cent in the clay zone, thirty to forty per cent in the mountain district, and from eighty to ninety per cent of the inhabitants of the sandy region may be infected.

Moisture and shade are certainly favoring factors to the existence of the hookworm. The drying heat of the sun, just as extreme cold, would prove fatal to the parasite. So that the warm, loose, moist, and shady soils of the South are particularly conducive to the prevalence of this germ or embryo of disease.

The egg of the hookworm is a thin shell elipsoidal body with a perfectly uniform contour. The thinness of its shell bespeaks a rather simple mode of development. It requires air or oxygen, and for this reason the process of development never occurs in the intestine. The egg is deposited in the soil by the careless and unsanitary disposal of waste matter from the body. Here it begins its segmentation and under favorable conditions in from twenty-four to forty-eight hours a young embryo emerges from the shell. This is microscopic in size and pointed at each end. It lives in moist soil or water during its embryonic existence and is actively motile. It eats heartily during the first week and shed its skin twice. About the end of the first week it becomes encysted in the skin of the second moulting and remains in a passive state. It ceases to eat and awaits an opportunity to find its way into its host. On reaching the intestine of man it sheds its skin a third and even a fourth time and gradually takes on the organization of the adult. It has been estimated that the parasite requires from four to six weeks after infection for complete development. Following the fourth moulting it attaches itself to the lining of the intestine and continues to live happily at the expense of its host. It is important to remember that whether there be few or several thousand parasites in the intestine, for every one present, a separate germ or embryo must enter the body.

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ECTOPIC GESTATION.* Case Report.

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Mrs. D., age 35, mother of two children, ages 8 and 6, having twin sisters in her family, had a six and one-half month miscarriage five years ago; case of twins, following which she suffered six or seven months with pain and tenderness on right side with the diagnosis of "Rheumatism of the Ovary." Three years ago had a six weeks' abortion, during which she had severe hemorrhage. Following this her health was excellent and her menses were as regular as clock work. Saw her April 26, at 7:10 P. M. Sitting at supper table a few moments previous was stricken with violent pain, which continued persistent. Gave her hypo M. & A. No. 3 and obtained the following history: Pain in pelvis, more intense in right side, radiating to and over the gall bladder. No temperature, pulse 96. Slight nausea twenty minutes after hypo. Extremely nervous. Menstruated last on March 8. Pain persistent and a second hypo given, making a total within the hour of one-half grain. A tentative diagnosis of abortion was made. Patient became easy, and I left at 9 P. M. Called again at 1 A. M. and found her suffering greatly from pain and also in a state of severe shock. Face pale and waxy. Lips bloodless. No uterine show. Pulse 120, weak and thready. A hypo of morphine one-quarter and atropine 1-150 was given.

Thursday morning patient had recovered from shock. A slight stain was observed. Still in some pain. Little nervous. A slight tumor was noticed on right side. Temperature 992.5, pulse 110. A diagnosis of extra uterine pregnancy with rupture of tube was made. Diagnosis concurred in by Dr. Smythe Friday A. M. and patient was operated on Saturday, with the following findings: An intraperitoneal rupture of right tube, twin tubal pregnancy. Left tube enlarged and swollen. Uterus enlarged and flabby. Appendix showed a diseased condition. The operation performed was a right salpingo-cophorectomy-appendectomy-left tubal resection-ventral suspension. More than five pints of blood, clots, etc., were washed out.

*Read before the De Soto County Medical Society at its annual session 1910.

TREATMENT OF RETRO-DISPLACEMENTS OF THE UTERUS.*

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This is by far the most common of all uterine displacements, and it is a condition that the general practitioner meets with almost daily at the bedside. The etiology and symptoms are well known, the diagnosis easily made, and for this reason will be omitted in this paper. The treatment is general, palliative and operative, depending on the individual case. General treatment is demanded for those cases of retro-displacement that are associated with a general abdominal petosis. Surgery is contraindicated in this class of patients, unless after a careful and prolonged study of the case, it is discovered that the displaced organ is the pathology that produces the symptoms. In the writer's opinion and experience, it is quite

*Read before Middle Tennessee Medical Association

rare that a retro-displaced uterus, associated with a general abdominal ptosis is the offending member, and for this reason surgery is not advisable. The treatment indicated here is a properly fitting abdominal belt, tonics, fresh air and regulation of the bowels, kidneys and diet. It is unwise in these neurasthenic patients to have their attention fixed on any one organ, and for this reason results will depend on the good judgment and suggestions of the attending physician, assisted by sensible treatment. This latter class having been eliminated, we now come to those that demand operative or palliative treatment. The first step after diagnosis should be an attempt at replacement of the uterus, provided the tubes and ovaries are normal, the perineum is intact, and no laceration of the cervix exists. If any one or more of these conditions are present there is no reason to replace the uterus because a pessary is contra-indicated, and we would have no means to retain the organ in position. The best method of reducing, the displacement, in the great majority of cases, is to put the patient in the knee chest posture, retract the posterior vaginal wall with a Sims speculum, seize the cervix with Volsellum forceps, and make traction on it in the direction of the coccyx, at the same time make pressure on the uterus through the posterior fornix with dressing forceps, the ends of which are wrapped with cotton. If this is not successful the posterior fornix should be packed tightly, and this packing is held in place by vaginal tampons. At the end of two days another attempt is made, and if this is unsuccessful, the same procedure as before is followed, and this in turn by another attempt at replacement in two days. If the organ is not bound down by adhesions, and the patient will relax herself, the displacement is usually reduced at the first attempt. Some sensitive patients object to the knee posture, and if this is the case, the bimanual method of Schultze may be tried. If the patient has a thick abdominal wall or rigid muscles, it is a waste of time to attempt the bimanual method without the assistance of an anæsthetic. The bimanual method is carried out as follows: The patient is placed in a slightly exaggerated dorsal position. Two fingers of one hand make pressure against the uterus through the posterior vaginal wall. As the organ rises out of its bed from the pressure that is brought to bear from below, the other hand is pressed down behind the uterus, through the abdominal wall. With the abdominal hand holding the uterus up, the vaginal fingers are changed from the posterior fornix to the anterior surface of the cervix, and at the same time that the vaginal finger pushes the cervix back toward the sacrum, the abdominal hand should push the fundus forward toward the posterior surface of the bladder. Sounds or other intra uterine instruments for the purpose of replacing the uterus are dangerous, and should not be used except by experts, and only by them in a well appointed hospital, where it is possible to carry out an aseptic technique. If the uterus can not be put back in position, the patient should be given the choice of operation or palliative treatment. The palliative treatment consists of rest in bed during the monthly periods, the avoidance of any prolonged muscular exertion, regulation of bowels, kidneys and the use of hot vaginal douches and tampons. If the uterus can be replaced, a well fitting pessary should be immediately inserted, and the patient kept under observation for two months. At the end of this time the pessary is removed, and if the organ remains in position a cure is effected. If it does not, then the patient has the choice of a continual pessary life, or of an operative procedure. The technique of inserting and the requirements for a well fitting pessary can be found in any text book, and will not be discussed here. It is essential to remember, however, that a pessary should never be inserted until the uterus is in its normal position, and the instrument should keep it in place without causing the slightest annoyance to the patient. Those cases of retro-displacement that are associated with lacerations of

perineum or cervix, even if the organ can be put back in position, are best relieved by operative procedures at the same time that the laceration is repaired. Some authorities advise the repair of the lacerations, and then after the parts have healed, the replacement of the uterus and the insertion of a pessary. This seems unwise to me for the reason that a cure of the displacement can not be promised, and the patient may have to undergo a second operation, which means a loss of time, added anxiety, and last but not least an extra expense to the patient. On the other hand, if the operation for the relief of the displacement is carried out at the same time that the lacerations are repaired, it means, in the great majority of cases, a cure for the patient with but little added danger, and no extra loss of time or money. An operation is not only indicated in this last condition mentioned, but also in all cases that are associated with diseased tubes or ovaries or pelvic inflammation. I should like to state that this comprises a very large class of retro-displacements. It is also indicated in all cases that are bound down by adhesions, and also in those cases where the patient prefers an operation to a continual pessary life. The operative technique I will not discuss in this paper. Good results are obtained by many different operations, and if an operator has been accustomed to obtain results by any one method, my advice is to continue to use his accustomed procedure, and not "seek after new gods." There is no condition in the domain of surgery that has brought out as many different operations for its relief as retro-displacements. Many of these are bad, some are good, but to my mind the perfect operation for the relief of this condition is yet to come.

TO SUMMARIZE.

(1) General treatment should be carried out in neurasthenic cases whose symptoms are not produced by the displaced uterus, also where there is a general abdominal ptosis.

(2) Pessary treatment should be given a fair trial in all cases in which the uterus can be replaced, provided there is no pathology of the tubes, ovaries and an intact perineum and cervix.

(3) Operation is demanded in all cases that are associated with diseased tubes, ovaries, lacerations of perineum and cervix, also in those cases that are bound down by adhesions, and again where pessary treatment has failed.

120 *Eighth Avenue, North.*

CONVULSIONS IN AN ADULT FROM COPREMIA*.

Report of a Case

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My excuse for reporting this case is the remarkable symptoms the patient exhibited. On Sunday, May 29th, at about 1 o'clock in the afternoon, I was summoned to see the patient, whom I was told, was having very violent fits, requiring four men to hold him in bed. The patient's family physician had seen him at noon, and had then gone to see another case, and they were unable to get him at once, hence I was called. I reached the patient's house at 1:10 P. M. and found a well developed white man, about 35 years of age. He was in bed, and there were four fair-sized men endeavoring to restrain and keep him in bed. The patient was unconscious and was having a tonic convulsion, his head was drawn well backwards, the eyes were shut and there was marked opisthotonus. The convulsion lasted about two minutes. He did not regain consciousness after the convulsion, his radial pulse was 90, the respirations were 16, his temperature—by the rectum—was

*Read before the Rutherford County Medical Society, Rutherfordton, N. C., June 7, 1910.

100.2 degrees Fahrenheit. The skin was dry, there was no inequality of the pupils and the reaction to light was present but markedly sluggish. The head was still retracted slightly and resisted any effort to draw it forwards. There was no risus sardonicus, the facies were quiet, save at the beginning and during a convulsion, when the face was markedly distorted. Movements of the extremities did not produce convulsions. After a few minutes the patient had another convulsion, beginning not in any one extremity, but apparently in all simultaneously; the head was retracted backwards to an extreme degree, opisthotonus was extreme and it required the united efforts of the four men to keep him in his bed. I could not detect his radial pulses during the convulsion, which lasted one minute and forty-five seconds. There was no effort to bite the tongue. After the convulsion the patient was in about the same condition except that the pulse was 106. There was no odor of liquor, urine or any drug on the patient's breath. I was able to elicit the following history from the patient's wife: For several years her husband had been having more or less trouble with his stomach, and about five or six years ago he had an attack somewhat similar, she had heard, to the present one; two years ago, he had had another attack, but not nearly as bad as the present one; he had been all doubled up and was unconscious for a few minutes. He had been relieved after he had vomited and his bowels had moved well; there had been no convulsions at that time. For the past month, she said, her husband had been complaining of his stomach and had not been in good health. He had not, to her knowledge, eaten anything unusual in the last few days. Two days before he had drunk a few bottles of beer, but he had not become intoxicated; he was a very moderate user of alcohol. In the morning he had complained of pain in his stomach, the pain being about the epigastrium, and she had called in their family physician to see him. The doctor came and gave him a couple of pills to move his bowels and told him to take a dose of salts afterwards. This the patient had done. His physician then gave him a hypodermic injection of morphine to relieve his abdominal pain and left about noon, as I have already said. About 12:30 the patient began to complain of very violent pain in his abdomen and the family physician was sent for. Soon afterwards the convulsions commenced. There were no strychnine tablets in the house, and to the best of his wife's knowledge her husband had not taken any strychnia for a long time and was not in the habit of taking it. Although the convulsions appeared to be like those caused by strychnia poisoning, on close observations there were some well marked differences; the risus sardonicus was absent, the patient was not conscious between the convulsions, nor could they be elicited by manipulation of his extremities, by noise, etc.; there was no respiratory embarrassment, nor was there any sweating and there was entire absence of any history of strychnine poisoning. I was therefore forced to make a diagnosis of Copremia and to institute treatment for that condition. I gave the patient a hypodermic of one-tenth of a grain of apomorphine—all that I had with me. I sent after some croton oil and more apomorphine and a restraining apparatus, for the men were growing tired with their struggles with the patient. Before my messenger returned the family physician appeared, and was as much puzzled as I was about the case. He did not have either apomorphine or croton oil with him, but he went after some at once and returned very promptly with the two drugs and we then gave him a sixth of a grain of apomorphine hypodermically and four drops of croton oil suspended in a dram of olive oil by mouth. A few minutes after the apomorphine and oil was administered the whole character of the convulsions changed, and instead of there being marked opisthotonus the patient began to double himself up forward. Seventeen minutes after the oil had been given him he regained consciousness and complained of

intense nausea and tried to vomit, but did not do so. He got up and voided a little urine into a vessel, which unfortunately already had some urine in it, so we could not analyze the urine. It was now about two twenty in the afternoon. During the time I was with the patient he had about fourteen or fifteen convulsions, all of a similar character, and the duration of each convulsion was about the same until he had had the croton oil and the apomorphine. The family physician confirmed what I had already supposed to be the case, namely, that the two pills he had given the patient were simple laxative ones and not containing strychnia. For the subsequent history of this case I am indebted to the family physician, Dr. J. C. Twitty, of Rutherfordton, N. C. He told me that he gave the patient a high enema that afternoon with good results. He catheterized him but did not secure any urine. The patient had moderate fever that night, was more or less nauseated, but did not actually vomit. The bowels moved well again that night. In all the patient passed seven or eight pounds of feces.. The next day the patient was semi-delirious and had moderate fever and a mild suppression of urine, which, however, yielded readily to treatment. The patient was up and out the day after this. I saw him a few days later, and he was unable to throw any light upon his attack, except to state that he had not taken any strychnine or eaten anything unusual. He also told me that he had had similar attacks before, which, however, were not as bad, and which yielded readily to treatment, said treatment being medicines to move his bowels. I have made a search of the literature at my command here and I have failed to find anything like the above case.

Since writing the above I have seen the patient and have learned from him that he had, several years ago, acquired syphilis, for which he had taken treatment for two full years, but he had discontinued treatment now for some two or more years. I have mentioned this simply to possibly throw more light on the case. I may say that one week after the attack the patient was in as good, if indeed not better, health than he has been for some years.

THE TOXEMIAS OF PREGNANCY.

By GEO. C. TRAWICK, M.D.,

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Probably every case of pregnancy develops to some extent a toxemia peculiar to the pregnant state. This may express itself in many different ways, such as vomiting in the early months, headache, morbid appetite, renal insufficiencies, and neuroses. The majority of such toxemias lead to no serious results, and are even considered as symptoms diagnostic of pregnancy, though any one of these so-called symptoms may be the forerunner and first indication of a toxemia that will have fatal results. Probably the vast majority of cases of pernicious vomiting of pregnancy are toxemic, and most of the remainder are neuroses which may or may not have a toxic causation.

That the practitioner who has one of the graver forms of toxemia to manage has far from a delectable experience in store for him, is something that you who have seen it will readily admit. Notwithstanding the vast amount of scientific work performed by men throughout the world toxemia in its various manifestations still remains a disease of theories particularly as to specific causation and pathology. Dr. Edward P. Davis, of Phila-

delphia, writing in the April, 1910 *American Journal of Obstetrics,* states that the toxemia of pregnancy arises from deficient action of the maternal liver, ductless glands, placenta, intestine and kidney causing a toxic condition of the blood. The occurrence of eclamptic convulsions depends upon the susceptibility of the nervous system, for toxemia may proceed to a fatal issue without the development of convulsions.

Lesions of the liver are constantly present, but exhibit great irregularity in extent and severity. A certain degree of fatty metamorphosis is said to be the rule in pregnancy, and from these changes there may occur a steady increase in intensity until acute parenchymatous hepatitis is reached, this condition consisting of an acute fatty degeneration with a proliferation of the interlobular connective tissue. In like manner necrosis may develop culminating in acute yellow atrophy. The size and appearance of the liver may vary greatly. In one instance the organ may be the seat of acute parenchymatous hepatitis with no diminuation in size, while in another the necrotic element may be so marked that the size is reduced to a third of the normal.

That a deficient action of the ductless glands may be a causative factor is shown by the fact that the normal enlargement of the thyroid in pregnancy has been found wanting in cases of eclampsia and a distinct tendency to exophthalmos may be observed.

It is a well recognized fact that toxemia is most apt to develop at two periods of gestation. The first is in the early months of pregnancy before the placenta is fully developed; the second is in the latter months when those changes are occurring in the placenta which precede labour. To strengthen the theory that toxemia may result from placental ferments, is it not significant that this condition should develop when the placenta is forming and when it has reached its highest development? With the death of the foetus in utero, the patient suffering from a severe toxemia may experience a great relief.

Deficient intestinal activity as a causation of eclampsia is an established fact. This probably results secondarily to the liver pathology above mentioned. When we bear in mind that the liver is one of the most important of the abdominal viscera, inasmuch as it not only renders fit for assimilation the food products, but it also renders harmless the products of intestinal putrifaction and the body waste in general, it is not difficult to anticipate severe intestinal insufficiency and a fatal termination in the case of any patient where the integrity of the liver is severely impaired.

The kidney as a causative factor in toxemia receives last mention by Davis. The appearances of the kidney are very irregular. Not only does the specific pregnancy-kidney occur under a variety of forms, but it may be complicated with nephritis. There can be no doubt of a specific kidney of pregnancy, an acute fatty infiltration of the organ which does not compromise the integrity of the kidney, and which tends to disappear after delivery. Acute toxemia may be associated with an acute parenchymatous nephritis, terminating in atrophy.

Eclampsia may be with or without convulsions. Eclampsia with convulsions is that familiar overwhelming of the nervous system accompanied by epileptiform seizures. Eclampsia without convulsions is seen in the toxemia with intense headache, substernal pain, epigastric distress, violent emesis and disturbed cerebrum. In these cases of so-called eclampsia without convulsions there is a specific affection of the pregnant woman in which there are changes of a parenchymatous nature in the blood and kidneys which would naturally produce convulsions yet in which these are never present. Kidney symptoms may be absent in slight or severe cases of this type, yet there are brain symptoms which may end in death without a convulsion. Autopsy will give evidence of kidney and brain changes similar to the fully developed eclampsia. There may be hemorrhages in kidneys, lungs and liver, a parenchymatous degeneration of

the heart, and necroses of the liver and kidneys. Vomiting and headache with excitement are usually prominent symptoms, and coma comes on suddenly, from which recovery may never occur. The poison of this intoxication is so severe that the nervous symptoms are completely crippled and cannot produce any motor symptoms. Usually large amounts of albumen and casts are present with high tension pulse and even anuria. Symptoms are almost identical with those of nephritis coincident with pregnancy with absence of eclamptic attacks.

The clinical causes of toxemia are predisposing or chronic and acute. As chronic (or predisposing) may be mentioned heredity, gouty, constipated or neurotic degenerates and primiparous pregnancy above the average age. The acute causes are exposure, ptomaines, acute hepatic sepsis and profound nervous shock. A fact that has been noted is the increased number of cases of eclampsia in the cold months, depending on reduction of the skin functions due to cold and insufficient covering of the skin with clothing.

Diagnosis. This depends on the recognition of hepatic insufficiency in its various degrees, the condition of the nervous system, the circulatory system, the kidney and the lung. A thorough physical examination of the patient is necessary. Whenever a pregnant woman is taken violently ill, we must bear in mind the possibility of a type of toxemia. The mysterious cases of sudden deaths, alleged suicides, accidental poisonings, or fulminant infectious disease may have been cases of the most intense degree of toxemia of pregnancy. To make an exact diagnosis in these cases may be impossible.

A case of toxemia cannot be diagnosed by an examination of the urine alone. One experienced in obstetrics may make a diagnosis of toxemia without the examination of the urine. In the physical examination the attention of the physician is first directed to the abnormal condition of the nervous system. Neuralgia, melancholia, hebetude, anorexia, deficient or exaggerated secretions, nausea, disturbance of vision, and disturbances of the special senses are all symptoms of this condition. The circulatory system shows an altered pulse tension of two sorts: the firm, high-tensioned pulse, and another, more dangerous, the rapid pulse without high tension except on very slight disturbance. The heart sounds are usually exaggerated. In chronic toxemia with damaged heart, the pulse will be rapid with low tension.

Cyanosis or asphyxia and venous engorgement are present in some cases with edema. Subnormal temperature is common.

There is frequently an enæmia secondary to toxemia which is very much to be dreaded. It may be noted in the usual manner, by observing the color of the mucous membranes, the flushed cheeks, the slight jaundice, and pigmentations of the skin. A coffee ground vomit and the discharge of coffee ground material from the bowel is evidence of the altered condition of the blood.

Physical examination of the abdomen gives tenderness at the epigastrum, a tendency to the accumulation of gas, and more or less impairment of peristalsis. The uterine muscle is irritable and may be in a state of tonicity or partially paretic. Fœtal heart sounds may be quickened, or in dangerous cases, very slow or absent from death of fœtus. Movements are accelerated or lessened.

Injection of the blood serum of a toxemic patient into animals will produce death, so toxic is the blood.

An opthalmoscopic examination should be made when practicable, as giving an index of the kidney condition before urinary changes are found.

The study of the urine is of great value, yet it should not be our sole reliance, and to depend solely upon this for signs of danger may end in disaster. First get the total amount passed in twenty-four hours, if possible. Thirty-six to sixty ounces in twenty-four hours should be about normal. The specific gravity should be taken, this indicating approximately the amount of solids being excreted. The

presence of sugar or albumen, the urea percentage and the character and amount of casts noted. While the excretion of urea varies with the amount of nitrogenous food taken, the fact remains that a diminished excretion of urea points to a pathological condition, especially if persistent. Inquire as to the patient's diet in making urea examinations.

Much stress has been placed upon the determination of the amount of ammonia nitrogen present. It will be interesting to have the laboratory men present discuss this feature. It is supposed the pregnant woman stores up nitrogen to prepare her for the muscular trial of labour. When physical examination gives definite information as to the condition present, it is interesting and valuable to determine the nitrogen partition in determining the gravity of the toxemia.

In intestinal toxemia the amount of indican present in the urine is significant. A large amount of albumen with granular, fatty, blood or epithelial casts indicates kidney whose epithelia are badly damaged. Albumen with hyalin casts indicates an overburdened kidney but one whose epithelia are not necessarily dangerously diseased.

Rapidly fatal toxemias may fail to show either casts or albumen in the urine.

It looks like a hopeless task to undertake to prevent toxemia of pregnancy in all its manifestations. A woman may have a succession of abortions due to toxemic conditions which are uncontrollable.

Regulation of the patient's food should be the first effort. The ideal food for her is milk fruit and bread, varied with fresh fish, green vegetables and toast. Liberal amounts of drinking water should be used, unless there is a tendency to edema either cutaneous or pulmonary. Stimulate secretions with small doses of calomel, continued for a period of ten days or longer if necessary. Remember that saline purges often dissolve fecal matter in the bowel and produce a later fresh absorption. Castor oil, or compound licorice powder may be better. The continuous instillation of sugar solution after Murphy's method cannot be too highly recommended in fulminant toxemias. The persistent use of oxygen will save many cases of eclampsia. With high tensioned pulse and threatened eclampsia the use of digitalis or veratrum should be remembered.

Do not drug the altered nervous condition of these patients with opium, bromides or chloral. Remember the cause of the neuroses and relieve them with prompt elimination and hydrotheraphy. The condition of the nervous system is the most valuable index to the woman's physical status, and she should no more be given sedatives than the case of appendicitis is given morphine to control the pain, the most important symptom.

If, in spite of our prophylactic efforts the case develops a marked toxemia with convulsions present or impending, our treatment demands prompt and vigorous measures. Study carefully the symptoms in all cases. Stimulate the action of the liver, bowel, kidney, skin and lungs. The question of using saline solution for colonic irrigations cannot be unqualifiedly recommended as formerly done. Jacobson, writing in the June number of the American Journal of Obstetrics (1910) recomends sugar solution for colonic irrigation, instead of the time-honored saline. He claims that in eclampsia there is an excess of salt in the blood, and it is dangerous to add to this. He uses sugar because of its high molecular weight. More of the salt molecules will go into a given volume of water than the heavier or larger sugar molecule. So that the molecular concentration of the blood would be speedily reduced by diluting it with sugar water, whereas it would remain the same or be increased by using salt. He reports several cases in which the sugar solution was used with most gratifying results. Ordinary granulated sugar is used, one teaspoonful to the quart of water, administering it through an ordinary douche bag.

The most vital question in eclampsia before delivery is how to empty the uterus. In the

lighter forms the ordinary medical means should be used, while a conservative method is being initiated to dilate the cervix. Accouchement force with a rigid cervix is to be unqualifiedly condemned. If the cervix is soft and dilatible, this maneuver is justifiable, if there is no extensive laceration of the cervix. My preference, in cases of rigid cervix, is the hyprostatic dilator. The Champetier de Ribes bag is easy of introduction. Fill it with normal saline at a temperature of 115 F. This may be faithfully relied upon to bring on labour, if the toxemic poisoning has not been so profound as to paralyze the uterus. In the latter condition the bag will at least soften the cervix so that it may be dilated with the hand without great risk. During the interval between introduction of the bag and delivery of the child active medical treatment should be used. As soon as the cervix will admit of the hand, version should be done and the child extracted. Violent measures should never be taken either to dilate the uterus or deliver the child.

Much has been said about the advisability of Cæsarean section in these cases. While this procedure cannot be absolutely excluded as an indication, yet the cases in which it is advisable are rare. E. Pestalozza (Ann. Obs. and Gyn., Mich, 1908) states the following indications should be present: First, a uterus that is undilated and not likely to become dilated in a time that will permit of delivery before death of the mother; second, very grave condition of the mother that has resisted all therapeutic measures; third, a living fœtus and one not menaced by immediate death.

Jackson Building.

SPRAINED ANKLE

By DR. DUNCAN EVE, JR.,
Nashville, Tenn.,

The ankle joint is more frequently sprained than any other joint of the body and consists in stretching or partially lacerating some of the ligaments of the joint, usually the external ligaments.

Causes—It may be caused by movements beyond the normal limit of motion. Sprained ankles are more common in young persons and in adults with weak muscles. The most common cause is that of forced inversion of the foot. This frequently occurs while a person is walking; a misstep or unevenness of the ground may result in the foot being turned inward; the weight of the body coming upon the foot in this position causing further inversion. We also have such injuries from falls, as jumping from a car, and especially persons engaged in athletic sports. Another type of sprains met with a great deal are in young ladies whose ankles are small and naturally weak in proportion to their body weight. The most important factor in this type of injury is a previous injury of a similar nature which leaves a weak joint behind it. So much for sprains due to inversion or the foot being turned inward.

Let us speak of the injury where the foot is sprained by eversion, which is a very rare occurrence: In a sprain by eversion, the foot is usually rotated outward and the ligaments on the planta and inner surface of the foot are very strong, so forced eversion is more apt to fracture the malleolus than to lacerate the ligaments.

Pathlogy—The most important effect of the injury always falls first to the ligaments of the joint which are damaged to a more serious extent than any other structure entering into the articulation. In a mild case, the ligaments are only stretched; in an ordinary sprain the ligaments may be slightly torn, and in severe cases a portion of the capsule of

the joint is ruptured, with one or more of the ligaments torn partially or wholly from its attachment to the bone. Also in these severe cases, we are apt to have portions of the capsule become caught between the articular surfaces.

Symptoms—The first symptom is pain, which is of a severe and sickening character, the patient sometimes becomes nauseated and faints. When the severe pain passes off, a feeling of numbness occurs with a dull aching due to pressure on the nerves. Pain of a severe character is also produced upon moving the ankle or putting the foot to the floor. In a short time after the accident hemorrhage takes place into and about the joint, which interferes with the return circulation, therefore we will have more or less swelling especially in the neighborhood of the external malleolus, and with this swelling we will have a general stiffening of the part. Ecchymosis will develop in a few days after the injury, the most frequent site being below the external malleolus, also we find it sometimes over the course of the posterior tibial artery.

Another important symptom is localized tenderness, which we find always below and in front of the external malleolus, which is due to stretching or laceration of the calcaneo astragaloid or external ligament of the ankle, tendons are stretched and sometimes displaced and the nerves are damaged. We sometimes notice there is no swelling immediately after the accident, but makes its appearance some twenty-four or forty-eight hours afterwards. Such condition is due to inflammatory exudation.

Another symptom, or we might say complication, occasionally noticed in periostitis of oscalcis. Such condition occurs in the sprained ankle when the patient jumps or falls some distance and alights on his heel. These patients will complain a great deal on the third or fourth day of pain about the posterior surface of the heel. A great many cases of this kind have come under my observation.

Diagnosis—The diagnosis is based upon chiefly the history of the accident and tenderness. The laceration of a ligament is very easily recognized by tender points corresponding to the ligament or ligaments which are usually just below and in front of the external malleolus, although fractures and dislocations should be considered. In fractures, crepitus and mobility exist; in dislocation, the joint is rigid and we have great deformity, the bones being felt in abnormal position. Effusion of blood is apt to conceal a fracture of the malleoli or the tarsal bones; therefore in such cases, if we cannot eliminate a fracture in the foot two or three days we should examine the ankle under an anesthetic or apply the X-ray. So much for the diagnosis of a recent ankle sprain.

Now, let us pass on and make a diagnosis of an old ankle sprain and beginning tuberculosis of the ankle.

SPRAIN.

1. No temperature.
2. No atrophy of muscles of leg.
3. As a rule health is good.
4. Pain increases at first upon walking; later on it decreases.
5. Pain not increased at night.

TUBERCULOSIS.

1. Just a little evening temperature.
2. Notice atrophy of leg muscles.
3. General health not so good.
4. No pain at first, but after walking some distance pain makes its appearance.
5. Pain more severe at night.

Sklagraph will sometimes show a tubercular focus.

Treatment—All that has been said will show that a sprained ankle is a serious matter, therefore it should be treated likewise.

If we look in our text-books we find generally three treatments: First, many of the text-books advise incorrectly that the only treatment is a plaster-of-Paris cast placed on right after the injury. Second, also we find many of the books advise the ankle to be treated by active and passive motion and

massage directly after the injury. Third, we find some of the books advice cold and hot application with elevating the limb, applying a bandage and later plaster-of-Paris cast.

In the past six years I have treated something over 300 cases of sprained ankle. During the first three years I used the three methods above mentioned, but must say that my results were not favorable.

The treatment which I wish to call your attention to, is the use of Gibney's modified dressing, which I have been using for the past three years.

In a mild type the foot should be placed in hot water some thirty or forty minutes at a temperature of about 110 degrees F. Then you can apply the Gibney's modified dressing.

For an ordinary sprain I use the hot water, and then usually paint the ankle with tincture of iodine and then apply some local application, as a rule, I use cerate of sub-acetate of lead. This application is, of course, soothing, but is especially used to relieve the patient's head. Now, I place gauze and a thin sheeting of cotton over the ankle and finally apply a spica bandage to the foot with uniform pressure, which will always check the effusion of blood into the joint. Now, the patient is instructed to have perfect rest with the foot elevated as much as possible. This case is now dressed

the same way the second or third day after the injury, and on the fifth or sixth day I apply the Gibney's modified dressing.

In the severe type, after using the hot water and before applying my dressing, I always make free movement of the joint in all directions, so as to make sure that no portion of the torn capsule or synovial membrane lies between the articular surface, because such movements of the joint will probably cause

them to come into position. Now apply the local applications and dress as before. Put the patient on crutches and as before instruct him to keep the limb elevated while at rest. This ankle is dressed as before every two or three days for three or four dressings, then apply the Gibney's modified dressing, remove his crutches and encourage him to use the joint to a reasonable extent for the first few days.

six long strips of adhesive plaster 18 inches long; six short strips 14 inches long and all one inch wide. Take a long strip first, which goes on the outer side of the leg and is attached obliquely on the tibial side, passing to the outer side of the leg behind the external malleolus under the posterior portion of the sole of the foot and ends on a level with the internal malleolus. Now take a short strip, start on a level with the internal malleolus,

So we see from the above treatment we have all the good features of the three text-book methods.

Gibney's modified dressing is applied as follows:

First, the surface is shaved; second, the foot should be held at right angles to the leg and just a little everted because the ligaments on the outside of the ankle are the ones effected, therefore slightly everting the foot relieves the tension of these ligaments. Now prepare

parallel with the margin of the sole of the foot, running backward over the posterior part of the heel, then obliquely over the dorsum of the base of the big toe. Alternate with each other and overlap each previous strap one-third or one-half until you have used them all.

Now you should place a roller bandage on the foot so as to be sure that your dressing will remain in contact. This dressing prevents lateral strains and checks swelling, but

does not prevent the use of the foot. This dressing should be changed about every eight or ten days for better support and because the skin becomes irritated. With this treatment it is rare that I have ever had a patient off from work over three or four weeks.

In conclusion let us review the good points of this dressing:

1. It limits the effusion of blood.
2. It immobilizes the joint.
3. It relaxes the muscles.
4. You get uniform pressure.
5. It prevents stiffening.
6. It reduces the time of treatment.
7. It produces a massage.
8. It is a sure relief for pain.

700 *Church Street.*

THE CURE OF TUBERCULOSIS BY THE GENERAL PRACTIONER.

By DORA LEE WILDER, M.D.,
Knoxville, Tenn.

Since March, 1882, when Koch announced to the world that he was able to show the cause of tuberculosis, and by his special staining methods he could isolate the germs and cultivate the disease, the best efforts of scientific medical men have been directed toward the prevention and cure of this disease. This crusade against tuberculosis has shown the prevalence of consumption among the high and low alike; provided the environment that fosters the development of the material of infection, and its dissemination be found present.

These conditions, speaking generally, have been found to be absence of fresh air and sunlight, overcrowding, the incomplete and improper disposition of the materials of infection, while exposure, overwork, insufficient and poorly prepared food, bring about a lowered vitality that renders the individual susceptible to the disease in the presence of infection.

It is now admitted everywhere by the ordinarily intelligent that tuberculosis is a curable, preventable disease, but in the face of this fact it seems difficult for the authorities, both medical and lay, to understand that with the new knowledge, afforded by the observations of Koch and his host of efficient followers, that new methods must be adopted to meet the existing conditions.

Very gradually comprehension of this simple and apparently quite self-evident fact has forced itself upon the attention of the profession and health authorities. They are awakening to the magnitude of the problem that confronts them; it is causing scientific research, detailed clinical study and effective organization for the control of the disease, and an almost inexhaustible supply of literature upon the subject.

The organized crusade now under way is rapidly uncovering the conditions which constitute its strongholds and opening up innumerable lines of promising attack. In view of the many factors inherent in such a baffling problem, it is impossible to attempt a consideration of more than a single phase of this great question in one paper. A phase that confronts every practitioner of the day, and that is the curability of the disease.

In every communication on the treatment of pulmonary tuberculosis in which the curability is dwelt upon, the fact is set forth that an early diagnosis is necessary, and that this must be made by the physicians in general practice, who, as a rule, are consulted at a time when the symptoms are not yet developed to the extent that the infection is of easy recognition, and theretofore when the disease is in the early curable stage.

Unfortunately our medical schools, until within the most recent times, have been deficient in this branch, but now, with the im-

proved methods at our command, the modern graduate should have no difficulty in making a diagnosis.

Every published paper on the diagnosis of the early stages insists upon the same facts, and every sign and symptom has been described and analyzed for the general practitioner's benefit so often, and with such uniformity, that there is nothing to be added, and if he has read and studied one in a hundred of these appeals for his co-operation, must be presumed to know all about the importance and the mode of examination which are to preserve him from error in dealing with the class of cases under consideration.

Those of us who are especially interested in the treatment of the disease, naturally want to see the patients where we have the best opportunity to afford them lasting benefit, but so often they wait, from one cause or another, until the advanced stages develop, thereby lessening the chances of recovery. But as the educational campaign progresses against this disease, it will have a marked effect upon the percentage of early consultations.

A large number of these cases can be sent to a properly equipped institution and, of course, there is no doubt as to the advantages to be derived from a well built, well placed, well conducted sanatorium. Apart from other striking advantages such an institution enables the physician to control and regulate the lives of the patients in the minutest detail, and few diseases require a stricter attention to detail than does tuberculosis.

Yet the great majority of patients are, for one reason or another, obliged to remain at home and do the best they can there, often without being in a position to give up their environment or their occupation, that presumably has had part in the development of the disease or in the outbreak of subjective symptoms, until obliged to do so from physical inability to continue.

It is for this class of patients, the poor and the helpless, that I wish to make my plea. If they cannot go to the sanatorium, then bring the sanatorium plan to them. Cure them at home.

This of a necessity must be done by the general practitioner, who must improvise and follow the best methods that are practical in securing life in the open air and sunshine, good food and the treatment of symptoms, as are of sufficient importance to demand treatment. This requires unbounded enthusiasm and unselfish devotion as well.

Heretofore we have thought that we must have climate to successfully combat the disease, but now we know that it can be cured in any place or any climate by the outlay of a very small sum of money and the expenditure of an unlimited amount of care and good sense. The matter of finding a suitable place to carry out the treatment may be difficult but never impossible. I freely believe that if one could have the sunshine and blue sky with the invigorating air of the open, how much easier it would be, but always some way can be devised in the worst congested part of our cities.

The Emmanuel Church of Boston, in their class method of treatment, with Dr. Joseph H. Pratt pushing it, has done more than any other movement to establish and prove that cures can be made at home and in any climate, and that not only cures can be made, but that a large percentage of cures and arrested cases will be the result of systematic and faithful application of the cardinal remedies.

The cardinal remedies consist of four points —air, food, rest and mind—and they must be combined into one natural cure.

Of the first three it is hard to say which is most important, but most of the authorities concede that air is the highest point and this must be secured at any cost.

Every hour spent out of it is that much of a handicap imposed upon the patient and he must be freely exposed to fresh air, and to obtain this one must live out of doors.

Life in the open is entirely different from sleeping in a room with the windows open. If anyone has any doubt on the subject, per-

sonal experience will convince one of his error.

All patients should be required to sleep outdoors, and this will prove no hardship, even in winter, if warm blankets and comfortable clothing is used to protect them.

There are several devices for protecting the patient against exposure to rain or snow, but the simplest and most easily obtained is the ordinary wall tent. These measure seven by eleven feet and can be obtained for the sum of $7.25. This is to simply furnish shelter in time of storm and at all other times the bed must stand exposed to continuous currents of fresh air. This is made possible by providing warm lightweight woolen garments, stockings, helmets and blankets.

A good many patients will object in the beginning for fear of "catching cold." Teach them that nothing could be farther from the truth, as "colds" are house affections, and that people who live entirely in the open are never affected by this trouble.

In crowded cities, balconies and roofs may be used to secure outdoor living. The roof probably being the better of the two, as the air is purer the more altitude you have.

Make it possible for your patient to stay in bed all the time—this properly comes under the rest cure—but if they remain in the bed in open air it entirely does away with house infection, as nature's disinfectants, sunlight and rain, renders him harmless as a means of infection for the rest of humanity.

It is almost impossible to make them careful of the sputa, no matter how much time you spend in impressing upon them the danger to others, as well as to themselves, from careless spitting.

The gain in the prevention alone is worth the effort expended in the open air treatment. if there were no other results.

But one only has to read a report of any established camp for the treatment of tuberculosis to be convinced of the open air method of treatment.

The feeding of a tuberculosis patient is almost, if not quite, as important as the outdoor treatment. Increase of weight is a source of encouragement to a patient, and we are justified in regarding a gain in weight as an indication that the progress of the disease is checked.

The waste process is so great in tuberculosis that an abundance of simple, nourishing and fattening food is necessary to meet the loss.

It is true that a patient in the open air can assimilate more food than one who is not, yet it is not advisable to overfeed to the extent of upsetting the digestive organs, thereby defeating the object in view.

The chief articles of diet are milk, eggs, fresh meat and pure olive oil, also the meat juices or a good steak. Pure milk is the most reliable as it contains all the elements of nutrition. The patients will tolerate a large amount of fat, and as a fat producer olive oil has no superior.

The old superstition that cod liver oil must be given if you save the patient has now passed into oblivion, as olive oil has proven more efficient. It is less hard on the digestive organs, easily assimilated, more palatable and cheaper. That alone in this day of high priced living is no small item.

Every effort should be made to have the patient take his food with unfailing regularity, whether he desires it or not, but if there be appetite then pander to that, as foods that delight the eye and tickle the palate do more good than those less pleasing. The fresh fruit may be used to an advantage here as well as having a very beneficial effect on the bowels.

The third point of treatment is absolute rest in bed. It has been the disregard on this *point* that has hitherto made the home treatment of tuberculosis so barren of results. It is easier to keep a patient in bed all the time than it is in part, and while there is any fever at all, insist upon the recumbent position in the open air. Dr. Karl von Ruck, of Asheville, N. C., claims that this method, in addition to his specific treatment, will absolutely cure every early case of tuberculosis. Be that

as it may, the immediate improvement in pulse and temperature more than justifies the radical procedure of continual rest in bed.

The last point is the mental, and in no other disease does the patient need more enthusiasm than this. It is a long uphill fight, and if you encourage your patient in the belief that he is improving, soon the mental state is showing in actual weight. Give them something pleasant to think of; use the record book that was gotten up by Dr. C. L. Minor, of Asheville, N. C. This a notebook in which is recorded all the events of the day; the number of hours spent in sleep, quality and kind of food, how much cough, quality of expectoration, temperature taken every two hours, the weather and anything else the patient considers important.

The Emmanuel Church class uses this book, and it is now being adopted by the best specialists.

This is only an incident, but no detail is too small to be disregarded.

Direction should be given in all matters pertaining to hygiene. Stress should be laid on the disposition of the sputa. Teach them to expectorate into paper cups that can be burned. Warn them against swallowing any sputum, thereby causing infection of the internal organs, and do not fail to give proper direction about the bath.

As to the treatment of symptoms, you will find that with the patient resting in the open air medicines are rarely needed. The cough and toxic symptoms quickly subside, the adhesive strip for pleuritic pain should be routine procedure, and special symtoms, as hemorrhage, etc., rarely occur under this treatment, but when they do, some special treatment must be administered, usually a hypodermic of one-quarter grain of morphine and cracked ice to swallow, will be sufficient.

I have not mentioned specific remedies, as that opens up a large field, but if one has faith in the tuberculin there can be no objection to its use, in well selected case and in conjunction with the nature cure, air, rest and food.

The present paper was not intended to be a history of the various remedies, but to impress upon the general practitioner his responsibility in the matter of making cures among the poor, in any climate, with the God given remedies that we can always get—pure air, good food and sunshine.

SELECTED ARTICLES.

AMERICAN PROCTOLOGIC SOCIETY

Twelfth Annual Meeting, held at St. Louis, Mo., June 6 and 7, 1910, the President, Dwight H. Murray, of Syracuse, N. Y., in the chair. Officers elected for the ensuing year: President, George J. Cook, M.D., Indianapolis, Ind.; Vice-President, Jerome M. Lynch, M.D., New York City, N. Y.; Secretary-Treasurer, Lewis H. Adler, Jr., M.D., Philadelphia, Pa.

EXECUTIVE COUNCIL.

Dwight H. Murray, M.D., Syracuse, N. Y., Chairman; George J. Cook, M.D., Indianapolis, Ind.; Louis J. Hirschman, M.D., Detroit, Mich.; Lewis H. Adler, Jr., M.D., Philadelphia, Pa.

The place of meeting for 1911 will be at Los Angeles, Cal. Exact date and headquarters to be announced later.

The following were elected Honorary Fellows: Mr. F. Swinford Edwards, Mr. W. W. Wallis, Mr. P. Lockhart Mummery and Mr. W. Ernest Miles, all of London, England.

The following were elected active Fellows of the Society: Dr. Horace Samuel Heath, 320 Temple Court Building, Denver, Col.; Dr. Stanley G. Zinke, 222 Fifth Ave., Leavenworth, Kan.; Dr. Granville S. Hanes, Masonic Temple, Louisville, Ky.

The following is an abstract of the principal papers read:

PRESIDENT'S ADDRESS, "UNDERGRADUATE PROCTOLOGY."

BY DWIGHT H. MURRAY, M.D., OF SYRACUSE, N. Y.

After thanking the Society for the honor conferred upon him in making him President, he made some recommendations as to its future before taking up the formal subject of his address.

He considered that the American Proctologic Society stood for a high class of scientific work and the best that there is in Proctology. He believed that it would be for the best interests of the Society that the programs of future meetings should be made up of a symposium, or possibly two, with essays treating thoroughly some selected subject or subjects, and that these papers should be written by men whose part in the symposium should be assigned to them by the executive committee. He suggested that the program should not be too crowded and that sufficient time should be given for a full discussion of every paper and subject presented.

He believed that a volume or year-book of the American Proctologic Society containing a symposium with additional papers of merit such as would be presented by experts in proctology, could be made of great value to the profession and would be sought after by general practitioners. He believed that it was of the utmost importance to the Society that the transactions be published yearly as it would be a decided step backward to omit the publication, no matter what its cost might be.

A recommendation was also made regarding the limitations of the field of the proctologist. He believed it to be true that the *ethical* practice of proctology was too narrow a field in which the specialist could gain a competence. He, therefore, recommended that this Society take up the question of the limit of proctology as a specialty and that it be changed to include diseases of the small intestines, in other words, that proctologists become procto-enterologists. In this way every member of the specialty would be doing uniform work.

He then proceeded to take up the main subject of his address, "Undergraduate Proctology." He believed that the specialty was rapidly assuming the importance which is its due, in spite of the opposition it has experienced from the general surgeons who have seemed to look upon it as an unwelcome invasion of their field.

He considered that one of the most important duties of the Proctologic Society was an educational one. He hoped that with the increasing appreciation and demand for this kind of practical work, that the colleges would take up the subject in a manner which its importance demands, and that if the medical colleges did not educate the profession in this branch of medicine, the members of the Proc-

tologic Society would do it. He put forth the claim that the field of medicine and surgery is too large to admit of any man becoming an expert in all branches. This is an age of specialties and the very limitations of a specialist make an expert of him.

He believed that proctologic teaching in colleges should be done by men learned in the specialty and not by general surgeons who only teach in a desultory maner, so that when the students are graduated they go forth to the practice of their profession in fully seventy-five per cent of the cases with little or no knowledge of this line of work.

He then proceeded to prove this point by a statistical report showing the answers to questions which he propounded in a communication to fifty of the most prominent colleges in the United States and Canada. The answers to those questions show conclusively that a very large percentage of the college faculties believe that proctology is of minor importance and that it is not necessary to give the student any special training in the subject.

In order to prove his point he found it necessary to communicate with a large number of physicians, including specialists in various branches and men who had graduated during the years from 1873 to 1905. He sent communications to these men asking them to answer certain questions which would show whether they believed they would have been better prepared for their practice and have been better able to treat their patients, if they had been given instructions in this line of work. Ninety per cent of the physicians answered the questions in the affirmative, which he believed told the story from the standpoint of the physician. This gave him good comparison from the standpoint of the college faculty on one hand who feel that they know the subjects in which the student should be trained at the beginning of his life work, and from the standpoint of the physician on the other hand who is in the midst of his life work. These answers show that physicians believe that colleges should devote less time to major things in specialties and surgery, and instead give their students more definite and practical instruction in proctology.

Dr. Murray then presented the questions and answers from the college faculties and physicians in tabulated form. He did not claim that the work of the eye, ear, nose and throat or of any of the specialties was unimportant, but he did maintain that the time given to these specialties should be shared in a proper way with proctology, which would not detract from the importance of the older specialty but would recognize the importance of proctology. At the same time this would put the young graduate in possession of knowledge that would not only be of great value to him but of far greater value to his patients. There are certain common and important diseases in every specialty that the young physician is sure to meet and ought to be able to recognize.

He believed it to be the duty of the American Proctologic Society to foster a sentiment in the profession and among college authorities favorable to the special teaching of proctology either separately or as a branch of general surgery. He did not deem it necessary that a special chair of proctology should be created, but that a course in proctology should be provided for under the chair of general surgery.

Dr. Murray believed that it would be wise for the American Proctologic Society to offer a prize of a substantial sum of money for the best original graduating thesis on a proctologic subject. The competition to be open to graduating classes of any college in the United States and Canada.

In conclusion the Doctor believed that the profession should offer more encouragement to specialties in all branches, especially to those who are willing to devote their time to a branch which has for some reason been neglected, as proctology has been. Then it would be practically impossible for quacks and healers of various sects and isms to take advantage of our professional neglect, and use it

as their opportunity to play upon the credulity and gullibility of human nature.

"REVIEW OF PROCTOLOGIC LITERATURE FROM MARCH, 1909, TO MARCH, 1910."

BY SAMUEL T. EARLE, M.D., OF BALTIMORE, MD.

The Committee on Proctologic Literature reviewed the following papers as worthy of the attention of the members of the Proctologic Society:

"The Treatment of Hemorrhoids by Zinc-Mercury Ionization," by T. J. Bokeham, which appeared in the Proceedings of the Royal Society of Medicine, May, 1909, p. 135.

A paper by Dr. Herman A. Bray in the Monthly Cyclopedia and Bulletin, May, 1909, p. 268, "The Importance of Careful Postoperative Treatment in Rectal Operations."

A paper from the Albany Medical Annals, May, 1909, vol. XXX, by Dr. George Blumer, New Haven, Conn. "A Neglected Rectal Sign of Value in the Diagnosis and Prognosis of Obscure Malignant and Inflammatory Diseases Within the Abdomen." The sign is spoken of as the rectal shelf, which is observed on making a digital examination of the rectum on the anterior rectal wall, from two to four centimeters above the prostate gland in males. This shelf is of almost cartilaginous feel which projects into the rectal cavity. In some cases the circumference of the rectum is involved in an annular zone of infiltration, more marked anteriorly and tapering off toward the posterior wall, a signet ring stricture, as Schnitzler calls it. The summary of his paper is contained in the following:

1. In certain forms of carcinoma of the abdominal organs, notably gastric carcinoma, and in some cases of tubercular peritonitis, implantation metastases in Douglas' pouch are common.

2. These metastases impinge upon the rectum and may infiltrate its submucosa, causing a peculiar shelf-like tumor on the anterior rectal wall, readily felt by the examining finger.

3. In cases of gastric carcinoma this may be an early metastasis, and occurs especially in males.

4. In such cases the primary tumor may be latent and the metastasis may be large enough to cause symptoms of obstruction. It has been mistaken at times for rectal carcinoma and has been removed as such.

5. The not infrequent occurrence of this rectal shelf makes it a diagnosic and prognostic sign of a good deal of importance, and warrants the statement that in no case of obscure abdominal disease should a rectal examination be omitted.

Dr. W. I. Dec Wheeler, in the London Lancet, March 6, 1909, gives excellent reasons for always using the abdominal route, or a combined method for excision of carcinoma of the rectum, whenever the malignant growth is three inches or more above the sphincter.

The technic for Excision of the Rectum in Procidentia, as given by Dr. John H. Cunningham, Jr., Boston, Mass., Annals of Surgery, May, 1909, is referred to and favorably commented upon.

Dr. A. L. Wolbarst's improved rectal irrigating tube is referred to. A description of the instrument may be found in the Journal of the American Medical Association, July 31, 1909.

"MALFORMATIONS OF THE ANUS AND RECTUM; REPORT OF FOUR CASES."

BY ALOIS B. GRAHAM, A.M., M.D., OF INDIANAPOLIS, IND.

Congenital malformations demand prompt surgical treatment. Many cases are never reported, and the percentage is evidently much larger than statistics indicate. These malformations are sufficiently uncommon and interesting to warrant placing every case on record. Report of four cases.

Case 1. White male child, born with no trace of an anus, and in whom careful dissection and exploration failed to find any trace of a rectum. Colostomy was suggested but the

parents refused their consent. Child died four days later. Autopsy refused.

Case 2. Colored male child, age five years, born with a complete obstruction of the anus by a membranous diaphragm, which was perforated by the attending physician. Examination revealed a dense stricture, almost impermeable, involving the entire anal canal. The interesting point was the presence of a hypospadias through which feces had escaped for two years. The communication between the rectum and urethra was the result of ulcerations above the stricture rather than defective embryological development. Surgical treatment was refused.

Case 3. Colored female child, age fifty-six days, in whom examination revealed a well-formed anus and a protruding or bulging imperforate rectum. A photograph shows a pronounced distention of the abdomen the result of a fifty-six days' intestinal obstruction. Posteriorly, the rectum had no attachments, and the finger could be introduced easily behind the bulging imperforate gut, through the anal canal, into a blind pouch. A fistulous opening was found in the vagina just behind the hymen. The meconium and a small quantity of feces had escaped through this opening. The protruding rectal mucosa was dissected from its attachments and exised. The rectal mucosa was then sutured to the free skin at the anal margin, except for one-eighth of an inch posteriorly. This was used for drainage in case the blind pouch became infected. This patient made a good recovery. At the last examination, which was three months following operation, the finger could be introduced easily into the rectum, the stools were normal, and sphincteric control was good. The fistulous opening into the vagina was closed, and the posterior rectal mucosa was firmly united to the skin at the anal margin. With the exception of an abdomen, which seemed to be a trifle prominent for one of its age, the child appeared normal.

Case 4. White child, one of twins, age forty-two hours, in whom examination revealed an imperforate urethra and no trace of a anus. Penis and scrotum were well developed, but neither testicle could be palpated. Careful dissection and exploration failed to find any trace of a rectum. A two inch incision was made in the median line just above the pubis, but no bladder could be found. Decided to perform a colostomy or sigmoidostomy. A portion of what was supposed to be the sigmoid was opened and a large quantity of meconium escaped. Exploration revealed a pouch which appeared of much larger dimensions than a normal colon or sigmoid should be. Operation was completed, and yet our inability to find the bladder made the case a hopeless one. Child died twenty-four hours later. At autopsy no bladder was found. The entire large intestine was removed. This case is of interest from the point of view of defective development. The pouch-like termination of the intestine might well be termed a monstrosity. The writer is inclined to believe that it is one of those rare cases in which the colon or sigmoid opens into the uterus. While the local examination revealed a male child, with the exception of being able to palpate the testicles, the examination of the specimen removed at autopsy reveals marked evidence of the female generative organs. This child was a traverse heramphrodite—namely, one in whom the external genitals seem to be of one sex and the internal of the other. Report of examination of specimen states that the pouch-like termination of the intestine is formed of three organs: namely, the bladder, uterus and rectum.

"THE USE OF QUININE AND UREA HYDROCHLORIDE AS A LOCAL ANESTHETIC IN ANO-RECTAL SURGERY."

BY LOUIS J. HIRSCHMAN, M.D., OF DETROIT, MICH.

Dr. Hirschman presented to the Society a report of his work with quinine and urea hydrochloride as a local anesthetic in ano-

rectal surgery. The cases operated upon were as follows:

Acute Thrombotic Hemorrhoids, 10; Internal Hemorrhoids, 22; Interno-External Hemorrhoids, 7; External Hemorrhoids, 10; Fistula-in-ano, 14; Abscess peri-anal, 7; Fissura-in-ano, 7; Excision of Scar Tissue, 3; Ball's Operation (Pruritus ani), 2; Hypertrophied Papillæ, 16; Inflamed Morganian Crypts, 4. Total, 102.

He reported perfect results as far as operative anesthesia was concerned in every case, and in but seven cases was there any post-operative pain. He uses the one per cent solution of quinine and urea hydrochloride in all of his cases of ano-rectal surgery, where suturing of the skin is not required.

The technic of administration as employed by Hirschman is the same as that used with weak solutions of cocaine and eucain. He describes this technic in detail. He believes that the substitution of quinine and urea hydrochloride for any of the other anesthetic salts hitherto employed will be found eminently satisfactory in all cases of ano-rectal surgery, where suturing of the integument is not required. He sums up its advantages over the other anesthetic drugs as follows:

First—It is soluble in water.

Second—It can be sterilized.

Third—It is equal to cocain in anesthetic power.

Fourth—It is absolutely non-toxic.

Fifth—It has a pronounced hemostatic action.

Sixth—Post-operative anesthesia lasts from four hours to several days.

Seventh—It is inexpensive and most always available.

"ATONY OF THE RECTUM."

BY WILLIAM M. BEACH, M.D., OF PITTSBURG, PA.

Dr. Beach stated that atony or sluggishness of the rectum signifies the inability to expel its contents by reason of impaired musculature, ligimentation or innervation, and further that the musculature in the rectum proper, or that portion above the plane of the levator ani, is entirely involuntary whose inertia must therefore be due to some inherent factor.

On the contrary, the anal canal, which is made up for the most part of the voluntary fiber, has most to do with the expulsive act, the normal function of which depends chiefly upon the muscular automaton that is intact, proper innervation and psychic influence.

The physiologic rectum depends upon (1) an unobstructed canal, (2) firm ligaments, and (3) a well-developed rectal sense residing in the anal canal. Factors contributing to atony are (a) Traumatism to the perineal body, (b) disease in the anal canal, (c) Enteroptosis secondary to general systemic conditions or local anatomic anomalies, (b) the abuse of injections and drastic catharsis, (e) diseases in adjacent organs, as prolapsed uterus, adhesions, neoplasms, appendicitis, prostatis, circulatory disturbance as engorged portal vessels and primary gastric diseases, (f) atony may be the sequel to luesis or senility. The treatment is that of constipation being guided by the cause. Alterative, dietic and mechanical agencies are to be invoked.

"VILLOUS TUMOR OF THE RECTUM."

BY T. CHITTENDEN HILL, M.D., OF BOSTON, MASS.

The author stated that a villous tumor of the rectum is very uncommon and but few cases have been recorded in current literature. B. Merrill Ricketts reported a case before this society in 1907 and states that but "Sixty-two cases have been reported, nine of which have been by six American authors." Since than I have been able to find but one case reported by Vautrin (L'Review de la Gynecologie). His article is the most accurate and painstaking observation to be found on the subject.

It is rather difficult to arrive at any conclusion as to their relative frequency by studying the reported cases or by searching hospital reports, as these border-line tumors are generally very loosely classified. Probably the most accurate data at our disposal may be had from

St. Marks Rectal Hospital, London, in which twenty-five villous tumors are tabulated among 42,343 patients with rectal ailments.

The chief point of interest about these tumors is that a certain percentage of them show a marked tendency to undergo malignant degeneration. From the histories of the thirteen cases cited by Ricketts, including one of his own, we learn that three recurred and three did not. Those with a broad base later became malignant, while those with a pedicle did not. Of the other seven cases no mention was made as to the final outcome.

Goodsall and Miles have had 12 cases—8 in men and 4 in women, of which number two ultimately became carcinomatous.

From careful study of these cases and several others the author believes that if there is a distinct pedicle without infiltration of the adjacent mucous membrane, tumors of this type are generally benign and if completely removed by ligation, or otherwise, there is but little likelihood of their recurring. On the other hand, if the base is broad, whether there be induration or not, a total extirpation of the rectum should be advised.

Another point of some interest, borne out by a study of these cases, is that the longer the condition has existed the less likely is it that the growth will prove malignant. The case now reported seems to bear out this statement.

Mrs. M., forty years of age, was referred by Doctor J. H. Vaugn, of Everett, Mass., January 5, 1907. She was well-nourished, weight about normal, but anemic, with sallow complexion. Had had indigestion for years, but in other respects was in good health. For the past six years had noticed small rectal hemorrhages. During the year previous the hemorrhages had become more profuse and the mass was always protruded at the anus during defecation and even after slight exertion when walking.

She had to go to the toilet several times during the day and to get up two or three times at night, when she would pass one-half cupful of blood-stained mucus; also considerable mucus would at times escape with flatus. For two months tenesmus had been present nearly all the time. She did not complain of anal or sacral pain.

Rectal examination. Sphincters, peri-anal skin and anal canal were perfectly normal. In the rectum was felt a slippery growth with a band-like pedicle one inch wide by one-half inch thick, attached obliquely with the long axis of the rectum. By careful manipulation the writer was able to bring outside the anal orifice a lobulated cauliflower-like mass, the size and shape of a large English walnut, from which there was a gentle oozing of blood while it was held outside by the sphincters.

Operation January 8, 1907. The sphincters were stretched after infiltration with one-quarter of 1 per cent cocaine solution and the mass drawn down with the finger and the pedicle infiltrated and clamped about half an inch from the margin of the tumor.

The pedicle was then transfixed on the proximal side of the clamp and ligated with Pagenstechere No. 5 in three sections and the pedicle cut away on the distal side. An ounce of bloody mucous escaped from the anus during the dilatation.

The operation was easily performed and with but little discomfort to the patient under local anesthesia.

Over three years have now elapsed since the case was reported upon, and as yet there is no sign of recurrence.

The report of Dr. Louis Hoag upon specimen January 8, 1907, was as follows: "Pedunculated cauliflower tumor of flattened spherical form of pale brownish red color and 4x3 1-2 cm. in size.

Surface quite regularly broken by deep narrow pits and furrows between and among hundreds of small hemispherical ovoid and spindle-shaped lobules ranging from 1 to 3 mm. in diameter. Such are soft, juicy but not necrotic and of uniform pale brownish red color. Surface always smooth and glistening. Irregularly distributed are deeper clefts outlining pyramidal divisions of the tumor, each bearing

upon its base, which is directed outward, a number of the lobules just described.

Toward the periphery of the cross section of the tumor the lobules are of uniform soft consistency and of uniform pale-brown red color. Centrally the pale pedicles, which are about 4 mm. in diameter, enter the tumor at a sort of hilus and its white fibrous tissue bearing numerous small blood vessels spreads out to be finally lost in the similar tissue of the apices of the various pyramidal divisions of the tumor."

"SIGNIFICANCE OF RECTAL HEMORRHAGE."

BY LOUIS J. KROUSE, M.D., OF CINCINNATI, OHIO.

He called the attention of the profession to the importance of making a more careful examination of every case where there is bleeding from the rectum. He stated that rectal hemorrhage must not be considered conclusive of the existence of piles. Many other diseases besides piles are accompanied by bleeding. He laid great stress on the importance of diagnosing malignancy in its early stage so as to give the patient a better chance of recovery. Many cases of malignant diseases of the rectum, whose only symptom is hemorrhage, have been overlooked and the patient sacrificed which would not have occurred had the family physician insisted upon a local examination, thereby diagnosing the disease in its incipiency before it had gone beyond the operable stage. He further stated that every patient is entitled to a thorough examination; and physicians are in duty bound to use all the means at their command to accomplish it. As Murray very aptly expressed himself: "Thus a case that today would be operable and a cure result, if diagnosed, would be inoperable in six months or a year and death result." The author reported numerous cases where a correct diagnosis had not been made on account of the negligence of the family physician. Some had been operated upon for bleeding piles which subsequently turned out to be cancer. He concluded his article with the statement "that earlier recognition of malignancy would add materially to the future welfare of the patient which can be obtained by surgical measures, and it therefore behooves the general practitioner to be on his guard and examine carefully every case of bleeding so as to detect malignancy in its incipient stage."

"ANO-RECTAL AFFECTIONS OF INFANCY AND CHILDHOOD."

BY A. J. ZOBEL, M.D., SAN FRANCISCO, CAL.

This paper briefly described those ano-rectal affections of infancy and childhood which may appear in one's daily work or in consultation practice.

From the first hour after birth the ano-rectal region is of vast importance. At that time malformations may be determined and proper relief promptly afforded.

The various malformations were enumerated and briefly described. Some of these abnormalities pass unnoticed throughout a long life, but others are the source of great discomfort and distress.

Mention was made that while hemorrhoids are common in adults the possibility of their presence in the young is rarely considered. Yet they may appear in children of tender years. The various causes of hemorrhoids in the young were reviewed in this paper.

Malignant growths of the rectum, while rare, are occasionally met with. Cases were quoted where the disease was found in children as young as five years of age.

Benign growths are more common Adenoma is the most frequent of these. They are often diagnosed as internal hemorrhoids, and, like them, may become strangulated. They may exist for some time and attain quite a size without producing any symptom until strangulation occurs.

Fissure of the anus is believed by the writer to be present more often than it is usually diagnosed. It may cause severe crying in nurslings. May cause reflex symptoms to appear which for a time may baffle the diagnostician. Some of these may resemble coxalgia.

The incautious and improper introduction of syringe nozzles and thermometers into the anal canal frequently cause fissures. Other causes were also mentioned.

Especial stress was laid on the subject of Pruritus Ani in children. The writer believing it to be a very frequent source of great discomfort and torment to the little ones. It is very rarely suspected or diagnosed, and he believes that it accounts for much of that peevishness in these little ones for which no cause can usually be assigned. The child is seen to rub his anal region, saying: "It hurts." Does not complain of itching. Seems to misinterpret the sensation. He has found superficial lesions of the anal mucous membrane in these cases, and as the symptoms disappeared when local treatment was instituted, he feels assured that these were the cause of the trouble.

Fistulo-in-ano is met with occasionally in children and even in nurslings. While it may be tubercular it may also be of a congenital nature.

Ischio-rectal abscesses are met with even in early infancy. When incised they rarely end in fistulae.

Prolapse of the mucous membrane of the anus and rectum is a common condition during the second and third years of life. Long continued tight binding in babyhood may be the starting point. Diarrhoea is the most common antecedent. Anything that induces prolonged and severe straining at stool may be a cause. Some of these causes were mentioned.

The varieties and causes of proctitis were also dwelt upon. Proctitis is often taken for ordinary catarrhal diarrhoea due to improper feeding. It is advised that when a gonorrhea of the genital tract exhibits in children that a secondary infection of the ano-rectal region should always be considered.

It is hoped that this reminder that infants and children have ano-rectal troubles, as well as adults, will lead to more thought being given in this direction, and that it will bear fruit in bringing relief to some of these little sufferers.

"THE TREATMENT OF RECTAL FISTULA."

BY J. RAWSON PENNINGTON, M.D., OF CHICAGO, ILL.

He referred to three methods, viz.: simple incision; the injection of bismuth paste; the incision or excision with immediate suture (Proctorrhaphy).

Of the *Simple Incision* he said: Those of us who are operating quite frequently for this malady know its disadvantage, drawbacks, and frequent failures to cure. That this operation has done more than any other, unless it be that of the ligature or clamp and cautery operation for hemorrhoids, to bring disrepute upon rectal surgery. That the laity dread a rectal operation more than any other surgical procedure because of the fear of pain, the fear of recovery and the fear of loss of control over the bowels. Yet we know that each of the above operations in the hands of experts give good results. Concerning the injection of bismuth paste he said: To treat a rectal fistula, the paste is liquified by heating in a water bath and injected into one of the openings with a metal or glass syringe. The other opening or openings are kept closed by an assistant while the injection is being made. Enough force is used until one feels reasonably sure that all tracts and diverticuli have been filled. The paste may be forced into some line of cleavage if too much tension is used and carried along this line to some distant organ or healthy tissue and deposited there with deleterious results.

Of excision or incision with immediate suture (Proctorrhaphy) he said: This method is the most rational of all surgical procedures, that he dissects and removes the entire tract when a probe or director can be passed through the fistulous channel and into the rectum. That he then searches out and removes any diverticuli or tracts connected with the main tract. If this can not be, or should not be

done, he then incises the fistula and dissects out all granulation tissue. If needs be the wound is disinfected with carbolic acid and alcohol.

Suturing the wound may be done by lembertizing the line of incision from its termination in the rectum to the anus. The ends of the severed sphincters as well as the deeper portions of the incision are next brought together with interrupted catgut sutures. The skin and fascia are sutured with interrupted silk worm-gut. He dresses the wound with iodoform or plain gauze and applies a T bandage. He maintains that Proctorrhaphy, or the paste, or a combination of the two, offers the nearest approach we have to the ideal method of treating extensive rectal fistula.

"THE TUBERCULIN REACTION IN CASES OF PERIRECTAL INFECTION."

BY COLLIER F. MARTIN, M.D., OF PHILADELPHIA, PA.

The author was so impressed with the frequent coincidence of pulmonary tuberculosis and perirectal infections that he began a series of tests and examinations to determine their relation.

He uses the Moro tuberculin reaction, combined with physical and bacteriologic examination.

In his preliminary report of 36 cases, which he divides into two groups, he got the following results:

Group 1. Rectal pyogenic infections, including here fistulæ, abscesses and deep rectal ulcerations. There were 20 positive reactions out of 21 cases. The negative case was one profoundly tuberculous.

Group 2. Non-pyogenic rectal cases. There were 11 cases, including hemorrhoids, fissure and catarrhal proctitis, with three positive tuberculin reactions. This he holds, is probably the ratio of tuberculosis in this class of cases. One negative case in this group was intensely tubercular, with extensive lung lesions evident, and with abundant tubercle bacilli in the sputum.

Accepting the tuberculin test as a specific one, he got 100 per cent positive in group 1, and about 36 per cent in group 2. The four cases giving negative reactions, yet being proved tuberculous, by sputum examination, proved to be of very low resistance, two dying in a few months and two, at present, in a precarious condition.

He emphasizes "continued history taking" as being extremely valuable to the proper appreciation of the case.

The author places particular stress on the prognostic value of the tuberculin test.

Accepting the positive reaction to tuberculin as indicative of a tuberculous lesion somewhere in the body, his conclusions are as follows:

1. Two consecutive, negative reactions, with no physical signs in evidence, is conclusive proof of the absence of such lesions.

2. Two consecutive negative or feeble reactions, with physical signs of a lesion somewhere, is indicative of a very grave prognosis.

3. The degree of the reaction is directly proportionate to the degree of the resistence of that individual.

4. That the tubercule bacillus, like no other, reduces the bodily defenses to pyogenic invasion.

5. That in practically all rectal pyogenic infection, there is a tuberculous lesion somewhere in the body.

6. That the classification of perirectal infections into tuberculous and non-tuberculous is untenable.

His investigations have caused the author to raise the following questions:

1. Is the primary tuberculous lesion pulmonary?

2. Is the local infection tuberculous?

3. Do the tubercule bacilli gain entrance into the body through the respiratory or the alimentary tract?

4. Is such infection carried to the rectal and perirectal tissues by the blood current, the

lymphatics, or directly, by the fecal current?

5. How does the tubercle bacillus influence the pyogenic infections—locally, as in mixed infection, or by lowering the body resistance to the invasion by pyogenic bacteria?

"LANE'S CONCEPTION OF CHRONIC CONSTIPATION AND ITS MANAGEMENT."

BY A. B. COOKE, M.D., OF NASHVILLE, TENN.

In his monograph entitled "The Operative Treatment of Chronic Constipation," Mr. Lane first defines the scope of the treatise by stating that the term, chronic constipation, as he employs it, includes all those conditions which are "the consequences of the accumulation of material in the intestinal tract for a period sufficiently in excess of the normal to produce on the one hand alteration in the gastro-intestinal tract and in other viscera, and on the other hand toxic changes from absorption." The fact is emphasized that while constipation is usually marked by infrequent hard stools, there may be a daily evacuation, and in exceptional cases the motions are loose and frequent.

The two chief pathological factors in the production of chronic constipation, according to the author, are enteroptosis and acquired mesenteries of adhesions, the latter resulting from inflammation, but being developed to oppose the displacement of viscera, the tendency to which exists whenever the erect posture of the trunk is assumed. The displacement and fixation of the several portions of the colon in faulty positions result primarily in defective drainage, and secondarily, in auto-intoxication and pathologic changes both in the gut itself and in the other abdominal viscera.

After describing these changes in detail, the author proceeds to discuss their immediate and remote effects, advancing the idea that in many cases diseases of the appendix, gall-bladder, stomach, duodenum, pancreas, kidneys, ovaries, etc., must be regarded as sequellæ of chronic constipation. In addition the phenomena resulting from toxic absorption are graphically described and the importance of their recognition stressed.

With reference to treatment Lane states that "in no circumstances should operative interference be contemplated till the surgeon has satisfied himself that every means of treatment has failed, whether medical or mechanical." The surgery indicated depends upon the conditions present. In mild cases in which non-operative measures have failed, division of the adhesions and constricting bands may be effective. Severer cases call for more radical surgery, consisting either in dividing the ileum and anastomosing it with the sigmoid or upper rectum, thus short-circuiting the fecal current, or, when pain is a prominent factor in the case, removal of the colon in addition.

The writer of the paper, after personal observation of Lane's work, regards his conception of the nature and management of the malady with much favor and thinks it entitled to serious consideration at the hands of the profession.

"A UNIQUE CASE OF LACERATION OF THE SPHINCTER ANI."

BY A. B. COOKE, M.D., OF NASHVILLE, TENN.

On February 26, 1910, the patient, a boy, seven years old, was brought to him at St. Thomas Hospital, accompanied by his father and physician. The following remarkable history was related: About noon on the day named the boy, who lived on a farm, went out to his favorite place behind the corncrib to attend to a call of nature. While engaged in the act a pet dog, a hound of medium size, came up from the rear, and mounting him effected entrance into the anus and became accoupled. The boy's outcries quickly brought his mother upon the scene. The dog had reversed his position and was in the same relation to the boy as is ordinarily assumed in the natural act with a bitch. The mother's excitement was naturally marked, and in her frantic efforts to disengage the two she used considerable vio-

lence and finally succeeded in separating the dog.

The family physician, on his arrival, found that the hemorrhage had practically ceased, but upon inspection of the bowel found the parts were badly lacerated and advised the patient's removal to Nashville for treatment.

Dr. Cooke's examination found very little evidence of external injury. Traction upon the anus, however, showed that several internal lacerations of considerable extent were present. Under general anesthesia the deepest of these was found to be in the middle line posteriorly, extending from a point two inches up the rectum through the sphincter muscles, and out upon the skin surface for a distance of approximately one inch. The external sphincter was torn in two places at this site, one tear being complete, and other partial. Anteriorly there was a second laceration into but not through the fibers of the sphincter. In addition there was a number of minor tears in the anal margin involving the superficial tissue only.

Fourteen interrupted catgut sutures were used in repairing the posterior laceration, and four in the anterior one. The others did not require suturing. The result was entirely satisfactory. Union was prompt and complete, and the patient returned home in two weeks with perfect sphincter control.

"MULTIPLE ADENOMATA."

BY GEO. W. COMBS, M.D., OF INDIANAPOLIS, IND.

An adenoma is the result of an increase in number and a crowding together of elongated and enlarged secreting follicles. It is an exaggeration of epithelial cells. This epithelium is prone to penetrate the basement membrane. When it does so and reaches the muscularis and other sub-mucous tissues it is malignant. Irritation causes the transformation from the benign to the malignant. This irritation may be through the normal function of the bowel, that caused by parasites, or as a result of surgical removal singly. Surgical disturbance in situ of a benign adenoma, a widening experience shows, will be followed by malignancy.

A case was reported in which occurred the malignant degeneration with surgical interference. This does not necessarily show an inherent tendency of benign adenomata to malignancy, but the adenomata, through the factor of irritation, predisposes the patient to cancer. In the case to which reference is made above, one or more of the adenomata low down in the rectum had undergone the malignant transformation. On account of the extent of involvement and the extreme exhaustion of the patient, extirpation of carcinoma was deemed inadvisable, but a left colostomy was made reaching a portion of the sigmoid above the growth limit. The tenesmus and diarrhea were at once relieved and the patient made comfortable until the carcinoma reached the cutaneous margin. Through the colostomy lavage was administered, the solutions being normal salt, boracic acid and sodium salicylate. The adenomata between the colostomy wound and the carcinoma, through functional rest of the bowel and cleanliness, disappeared.

If degeneration has not taken place a colostomy right or left, high enough to get above the growth limit, is advised and through this soothing and cleaning solutions used, rather than the removal of the whole bowel proximalward above the high limit of growth. The latter is a very serious operation for the strong and one in which the mortality will necessarily run high in these patients, as they usually present themselves late in the disease.

After malignant transformation has taken place, it would seem useless to remove the malignant portion unless the entire bowel involved may be removed at the same time.

"SOME OBSERVATIONS ON THE PATHOLOGY OF MULTIPLE ADENOMATA."

BY JEROME M. LYNCH, M.D., OF NEW YORK CITY, N. Y.

He presented the results of his observa-

tions on two interesting cases of rectal multiple adenomata. He hoped that others would be sufficiently interested to record and report their own cases, and that our admittedly scanty information on the pathology of this unusual and serious diseased condition would be materially added to.

It was his impression that approximately 46 per cent of recorded cases of adenomata terminate in cancer and that the ultimate results are commonly fatal, yet the scientific investigation of these tumors has been so comparatively rare and isolated that our actual knowledge of the causes and conditions is lamentably meagre. It may be said that the pathology is not at all established.

LOCATION.

According to Lichtenstein the relative number of instances of these tumors in the different parts of the intestinal tract is indicated in the following arrangement (the most frequent site of occurrence being in the rectum)—rectum, ileum, colon, ilio-cecal valve and duodenum.

Malignant degeneration naturally affects the parts named in about the same comparative order of distribution, with the exception of the ileum; this latter being less exposed to insult by reason of the fluid condition of the feces in that region.

It may be noted that these tumors usually manifest themselves in patients between 25 and 35 years old, and the malignant degeneration consequently occurs much earlier than cancer usually occurs.

About 50 per cent of the cases collected from the literature were under 35 years of age A brief summary of the current theories followed.

PATHOLOGICAL FINDINGS.

Several tumors were removed from each case, from the smallest size to the largest. The smaller tumors (that is, those that had recently sprung up) were shown to be composed mostly of granulation tissue, which showed numerous small blood vessels and interstitial fibroblasts. The entire structure is infiltrated by an acute exudate of leucocytes and serum, showing an acute inflammatory process. At the base of the polyp are a few slightly hypertrophied but rather typical glands. The surface epithelium over the polyp shows complete desquamation. The tumor appears to be composed almost entirely of a inflammatory granulation tissue.

DIAGNOSIS—INFLAMMATORY TISSUE POLYP.

The section through the large polyp, taken from the same individual as the above, but at an advanced stage, showed a growth composed of adenomatous glandular proliferation. There is a narrow peripheral margin in some places about the growth, which shows granulation tissue. The greater part of the growth about the periphery is composed of simple adenomatous glandular proliferation. Throughout the polyp there is an exudate of serum and leucocytes, the latter showing a predominating number of eosinophiles. There is complete desquamation of the superficial epithelium. Some of the glands in the adenoma appear typical, but the greater number are very much larger than those of the rectal mucosa, and are in a condition of marked hyper-secretion.

DIAGNOSIS—ADENOMATOUS POLYP.

These two reports were selected as being typical of what was found in the small and in the well-developed tumor, and go to show an inflammatory starting point, with a later proliferation of glandular tissues, which corresponds, to a great extent, with the findings of Lebert and Schwab. Much more might have been learned had the writer been fortunate enough to have secured a post-mortem on the case that died, as he was confident some of the tumors in the upper part of the sigmoid would have shown carcinomatous degeneration. Again, a section through a growth, down into the bowel, might have thrown some further light on the subject.

He hoped to continue the investigation when another opportunity offered. Reports of cases followed.

"SKIN MANIFESTATIONS OF AMEBIASIS."

BY JNO. L. JELKS, M.D., OF MEMPHIS, TENN.

The author had observed cutaneous affections among a number of persons suffering with chronic Amebic affection. In April, 1909, he reported cases before the annual meeting of the DeSoto County, Mississippi, Medical Society. In May, 1909, he made similar allusions to these conditions before the annual meeting of the Arkansas State Medical Society. Again in April, of the present year, at the Tennessee State Society, in a paper, "Amebiasis, complicated in one instance by Pellagra, in another by eighteen Adenomata," he referred to these associated conditions.

In one case, observed two years ago, with very chronic amebic infection and ulceration, the patient had for more than forty years observed that the skin lesions, which were erythematous and macular, and at times edematous, depended very greatly upon the condition of the bowel at that time. This patient was returned to her family physician as incurable owing to the scarred, distorted and stenosed condition of the bowel. She has since died, apparently from exhaustion produced by a most extensive desquamative dermatitis.

Another case which was observed in the winter of 1908-1909, of chronic amebic ulceration, with liver abscess complicating, presented extensive macular, papular and pustular skin lesions which quickly cleared up under treatment, which was directed solely to the intestinal infection and ulceration.

Recently a case was presented which had been diagnosed by several able physicians and skin specialists as one of pellagra. The case presented all symptoms of amebic infection, which preceded the skin lesions, and the author found the *ent-ameba-hystolitica* in the muco-purulent material taken from the rectum, and concluded that the condition known as pellagra may have its solution as to etiology when systematic examinations are made for parasitic infections and intestinal conditions.

The author expressed the belief that those may help explain the prevalence of the condition known as pellagra in the South. A report of six cases were presented in support of his views, and he emphasized the singular coincidental, if not consequential, skin lesions in so many chronic amebic cases which have been observed by him and which responded to treatment directed solely to the intestinal infection and ulcerations. He quotes other authority both in this and other countries which are supportive of his views.

"INCONTINENCE FOLLOWING RECTAL OPERATIONS."

BY GEO. B. EVANS, M.D., OF DAYTON, OHIO.

We understand the external sphincter to be a flat plane of muscular fibers, elliptical in shape, and intimately adherent to the integument and joining with the perinei, levator ani and accelator urinæ. It is a voluntary muscle and supplied by a branch of the fourth sacral nerve.

The internal sphincter is but a muscular ring, half an inch in breadth, in thickness two lines, and but an aggregation of the involuntary circular fibers of the intestine. Evidently the only true sphincter ani is the external —the internal sphincter ani is not subject to volition—and its sphinteric influence must be largely due to the support afforded it by the practically amalgamated muscles which form the floor of the pelvis and whose main function is the support of the hollow viscera of the pelvic cavity. Would it, therefore, be illogical to believe that the internal sphincter is not, neither can it be, made by any surgical procedure, an efficient voluntary constrictor? Certainly, it is true that efficient and satisfactory sphincteric function is dependent on normal support of the bowel by a normal muscular floor, with a normal interdependent power of sphincter muscles, hence any trauma which interferes with muscular function disables proportionately to the extent of the injury.

That incontinence does follow division of the external sphincter is not denied, and when

their division becomes a necessity the best way, if there is one, of making the incision, should be chosen. Can we hope that ere long there will be a method of cure for fistula-in-ano that will exclude even the possibility of incontinence?

Considering the anatomical conformation of the perineum, the mutual dependence of perfect function, I would admonish those engaged in rectal surgery to not forget that indifferent and multiple injuries (even surgical injuries) should not be indulged in, for fear of a result that would prove more painful and unendurable than the condition which indicated operative interference.

We believe that incontinence can be obviated by relieving the tension of the fibers of the levator ani muscle at their attachment to the external sphincter, or both the external and the internal sphincter by nicking the fibers of said muscles on either side of the fistulous tract, and thus permitting an incision of the muscle at right angles to the same .

"ULCERATION OF THE RECTUM IN PREGNANT WOMEN AND THE PART IT PLAYS AS A FACTOR IN ABORTION: CASES'.' WITH A REPORT REPORT OF

BY LEON STRAUS, M.D., OF ST. LOUIS, MO.

Sixteen years devoted to diseases of the rectum exclusively has afforded the author the opportunity to see and classify a large number of cases of irritable ulcer of the rectum in pregnancy, to say nothing of a much larger number not associated with this condition. He has kept a careful record of these most interesting cases and has classified them with reference to certain conclusions, namely, that it is a factor not infrequently overlooked. Then, too, many general practitioners make the contention that an operation is uncalled for and unwarranted, that is to say, an operation will certainly produce the very result which it is intended to avoid.

He dissented absolutely from this contention, and for that reason reported the results of his work along this line and his final conclusions. He has operated twenty-four times for irritable ulcer of the rectum in pregnant women. Not all of these operations were made to prevent abortion. In fact only fourteen had had one or more abortions. That leaves ten for which the operation was made to relieve the distressing pain from which these patients suffer. A number of these cases are unique and teach a lesson apart from the average case. The history, symptoms and results of several such cases were reported and the following conclusions were drawn.

First—That irritable ulcer of the rectum is not an infrequent factor in abortion and miscarriage.

Second—That the local lesion is not recognized by the general practitioner as a factor in abortion and miscarriage.

Third—That you will meet strong opposition to operative interference by the general practitioner.

Fourth—That you can and should operate at ny period of the pregnancy if indicated.

Fifth—That the danger and only danger is in leaving the fissure without operating.

Sixth—That you may and will often have to assume the entire responsibility for the outcome of the operative procedure .

Seventh—That we proctologists should teach on the by-ways and highways of surgery the invariable indication for surgical interference in these unfortunate cases .

"A CASE OF LOCALIZED DERMATITIS FOLLOWING THE USE OF QUININE AND UREA AS A LOCAL ANESTHETIC IN A CASE OF FISSURE AND HEMORRHOIDS."

BY ARTHUR HEBB, M.D., OF BALTIMORE, MD.

Three days after the use of a 1 per cent aqueous solution of quinine and urea, as a local anesthetic in a case of fissure and hemor-

rhoids, erythema over the ischiorectal region developed, followed by epidermolysis, then a profuse serous discharge which continued for four or five weeks. The wound showing little tendency to heal during this time.

"A BRIEF REVIEW OF THE HISTORY OF THE AMERICAN PROCTOLOGIC SOCIETY FROM ITS ORGANIZATION IN 1899 TO DATE."

READ BY THE SECRETARY OF THE SOCIETY, LEWIS H. ADLER, JR., M.D., PHILADELPHIA, PA.

The author believed the presentation of this paper would help to impress the profession with what had been accomplished, not alone for the individual profit and pleasure of the members or the organization, but likewise for the benefit of the profession as well as for the advancement of the science of medicine.

Attention was called to the fact that as the surgeon had rescued surgery from the "Society of Barbers and Bathers," and the obstetrician the practice of midwifery, from the ignorant and often grossly careless midwife, so the proctologist, largely by means of this organization, has advanced diseases of the rectum and sigmoid from the domain of quackery to a recognized specialty, and has removed from the hands of the charlatan, to a great extent, a fertile field for playing upon the credulity and ignorance of the populace.

The first effort to organize a National Proctologic Association was made in June, 1895, when the American Medical Association met in Baltimore. Dr. Samuel T. Earle at that time called together the following proctologists to meet at his house: Drs. James P. Tuttle, Samuel G. Gant, T. C. Martin, Joseph M. Mathews and Leon Straus. The subject was talked over informally, but no definite action was taken.

Including the present meeting at St. Louis, the Society will have convened twelve times. The respective meeting places, starting with the first session in 1899 at Columbus, Ohio, were: Washington, D. C., St. Paul, Minnesota, Saratoga Springs, New York, New Orleans, Louisiana, Atlantic City, New Jersey, Pittsburg, Pennsylania, Boston, Massachusetts, Atlantic City, New Jersey, Chicago, Illinois, Atlantic City, New Jersey, and St. Louis, Missouri.

The following Presidents, in the order named, have been Drs. Joseph M. Mathews, James P. Tuttle, Thomas Chas. Martin, Samuel T. Earle, William M. Beach, J. Rawson Pennington, Lewis H. Adler, Jr., Samuel G. Gant, A. Bennett Cooke, George B. Evans, Dwight H. Murray and George J. Cook.

Special attention was called to a paper by Dr. Wm. Bodenhamer, in 1903, upon "Atony of the Rectum," read by title, the author being ninety-four years of age.

The number of papers presented at the different meetings have varied from twelve to twenty-eight. The total number of articles read at all meetings, exclusive of the present session, have been one hundred and eighty-seven. The first year a small volume of Transactions was issued. This, however, was discontinued until 1908, when it was decided to issue an annual volume for three successive years. Two have already been issued, and the remaining volume will be published, following the present meeting. It seems to the writer that the publication of the Transactions annually should be made a permanent feature. In this manner they become a public and permanent record of the work accomplished by the Society, and do more to add dignity to and further the aims of the organization than anything else. Knowing that the Transactions will be published, the members will be stimulated to present papers at each meeting and exert their best efforts in their preparation. Furthermore, the discussion of such papers will be more energetically entered into and more carefully considered because of the knowledge that such discussion will be permanently recorded.

The membership began with thirteen and at the present time numbers thirty-seven active members. Five Fellows have resigned for va-

rious reasons, and one has been transferred from the active to the honorary list. Nine honorary Fellows have been elected as follows: Sir Charles B. Ball, Dublin, Ireland; Prof. Dr. Sonnenberg, Berlin, Germany; Dr. A. Tierlinck, Gand, Belgium; Mr. F. Swinford Edwards, London, England; Mr. W. W. Wallis, London, England; Mr. P. Lockhart, Mummery, London, England; Mr. W. Ernest Miles, London, England; Dr. Edmund Andrews, Chicago, Ill.; Dr. Wm. Bodenhamer, New Rochelle, N. Y., the two latter being now deceased.

The average attendance at the annual meetings has been over ninety-five per cent of the membership, a most excellent indication of the interest shown in the work of the organization.

In the body of the article reference was made to a number of important papers presented from the inception of the organization to date, and from a cursory review of these varied papers selected for special mention, it will seem that the subject of Proctology in all its phases has been amply covered at one time or another; many new instruments have been devised and exhibited; many original methods of operation have been suggested, and advanced methods of treatment introduced.

The discussion of the papers presented have been entered into freely both by members and visitors. Criticisms, favorable or otherwise, have been made with impartiality, but never in the entire history of the organization has one word been uttered to impair the harmony of a fellowship which has endeared itself to its members and strengthened as the years have gone by. It is perhaps unusual in so large a body of men, working in the same field and with the same objects in view, not to find occasionally jealousy or personal antagonism in some form or manner. The fact that this has happened in the history of the organization is due, perhaps, somewhat to the care exercised in the selection and election of its members and the intimacy and close friendship existing between them.

Those interested in the Society's welfare cannot but be well satisfied with the result thus far obtained. But what of the future? Can the same interest be maintained, and, if so, can it be along similar lines, or is it possible to awaken further interest by the introduction of some new procedures and ideas? Possibly the discussion of some one subject as the chief feature of the program, to be opened by one or more men previously assigned different parts for consideration, to be followed by a general discussion, a suggestion which was made at the first session, but so far as the writer has been able to ascertain, never carried out, might prove a means of increasing interest in the work of the organization.

"REMARKS UPON CECOSTOMY AND APPENDICOSTOMY."

(With exhibition of a new entero-colonic and appendical irrigator.)

BY SAMUEL G. GANT, M.D., NEW YORK CITY, N. Y.

Dr. Gant called attention to the remarkable usefulness of appendicostomy and cecostomy in the direct treatment of bowel diseases and made the point that the later was preferable in this class of cases and would sooner or later supercede appendicostomy. He also exhibited a new appendiceal irrigator which could be inserted during operation and which permitted irrigation to be started immediately in aggravated cases of diarrhœa and intestinal autointoxication.

Next he showed a new entero-colonic irrigator by means of which the large and small intestines could be irrigated separately or at the same time.

He claimed that this instrument is indicated in the treatment of all forms of enteritis, entero-colitis and the different types of ulcerative diseases of the colon and also in the treatment of typhoid fever, intussusception, peritonitis and paretic affections of the intestine.

This irrigator, he maintained, was useful as well for studying the contents of the bowel, intestinal feeding, the direct employment of

cathartics, enteroclysis and for many other useful and practical purposes.

"A REPORT OF A CASE OF POST-OPERATIVE DELIRIUM."

BY SAMUEL T. EARLE, M.D., OF BALTIMORE, MD.

The author stated that while post-operative delirium was quite common before the days of antiseptic surgery, it was due then in the majority of cases to septic infection. The condition is rare now, except when due to shock, and then only as a result of a grave operation.

The minor character of the operation preceding the attack in the present case makes it more interesting, which is doubtless accounted for by the age of the patient.

Case. Dr. A .T., aged 78, had suffered with hemorrhoids since before the Civil War (1861), but had persistently determined not to be operated upon. Early in May, 1910, they became thrombosed and inflamed, at which time he consented to an operation.

The usual hypodermic of 1-6 of a grain of morphine, atropine 1-120, and strychnine sulphate 1-30, was administered prior to the anesthetic. Fearing the effect of ether or chloroform, on account of his age, it was decided to administer a mixture of nitrous oxide gas and oxygen. This mixture did not keep him thoroughly anesthetized, consequently the operation was not completed as quickly as usual, and as a result, there was more blood lost, which did not exceed two or three ounces.

The operation was completed, he regained consciousness in a few minutes, but almost immediately became very excited and delirious. Thinking this might be due to pain, 1-4 of a grain of morphine was given at the end of two hours from the time he received the first hypodermic; a third dose was given at 8 p .m., three hours following the second dose. The patient continued very delirious during the night and for the days following. The second and third nights we were able to quiet him for a few hours by hyoscine hydrobromide grain 1-50, and morphine 1-6 administered hypodermically. For the remainder of the first week the hyoscine hydrobromide 1-50 was sufficient to give him a quiet night, but the delirium continued for one week from the time of the operation, but not nearly so active as during the first few days and with some lucid intervals. His temperature did not exceed 99 1-2 the first three days, but on the fourth day it reached 100.5, and again on the seventh day, for a short time, without any apparent cause, otherwise the patient made an excellent recovery, and was able to be about the house in about ten days after the operation.

"APPENDICOSTOMY—A CONSIDERATION OF THE PRESERVATION OF THE BLOOD SUPPLY OF THE APPENDIX IN THE TECHNIC OF THE OPERATION."

BY FRANK C. YEOMANS, A.B., M.D., NEW YORK CITY, N. Y.

Case. Mrs. X. was operated upon March 21, 1908, for ulcerative Colitis. While performing the appendicostomy one of the cecal vessels going to the appendix was punctured and tied. Three days later the appendix sloughed and a fecal fistula formed. The colon healed with irrigations, the fistula closed and the patient is well today as regards her bowel. This experience and similar experiences of several colleagues, led the writer to a study of the circulation of the appendix from a surgical standpoint.

Embryology shows the appendix to be the vestige of the original head of the cecum which failed to participate equally in development with the rest of that organ, and at an early period of embryonic life, not possessing a mesentery, derived its sole blood supply from the cecal vessels. The latter statement is true of the rudimentary and the fetal forms of appendix, even in adults. For all practical purposes the sole blood supply of the veriform appendix is from the posterior ileo-cecal artery through (a) its cecal branch, which sends one or more twigs to the appendix, and (b) its appendicular branch, which runs in the free

border of the meso-appendix, sending several (usually 3-5) branches to the appendix. The cecal branch is constant and courses along the appendix on its mesenteric side, anastomosing with branches of the appendicular. Dissections of a number of injected subjects, by the writer, demonstrated this arrangement of vessels to be practically invariable. As these vessels are by nature terminal in character, there at once became evident the importance of preserving both branches at operation, if the vitality of the appendix is to be maintained entire.

No trouble is experienced in avoiding the cecal vessels when uniting the cecum adjacent to the base of the appendix to the parietal peritoneum, as they indicate their position by visible pulsation. With the mesentric branches it is different. Most appendices are falciform and one must free the mesentary in order to straighten the lumen sufficiently. There are two ways of accomplishing this. One is to ligate and cut the mesentary at a point far enough from the base of the appendix that the blood vessels are preserved to that part of the appendix traversing the abdominal wall. The tip beyond the skin dies and infection is apt to extend between the appendix and abdominal wound, hence this procedure is objectionable.

The other method, here advocated and in practice found successful, preserves the arteries intact and consequently the vitality of the entire appendix. It is accomplished by separating the two layers of the mesentery at its juncture with the posterior mural peritoneum, beginning at its free border, and carefully displacing the cellular tissue with its contained appendicular artery and branches, as far as necessary toward the appendix. The two layers of peritoneum are then divided transversely to the base of the appendix, turned in and sewed, to obliterate the raw space on the posterior abdominal wall. Experience teaches that it is unnecessary to test the patency of the appendix until the wound has healed, i. e., in four or five days.

Further precautions are not to obliterate any arteries by forceps, ligatures, sutures, torsion or tension in fixing the appendix in a position where it does not rest naturally, or by closing the wound too snugly about it.

By following this technic, the operation is without mortality and post-operative leakage of feces and hernia—the two troublesome sequellæ of appendicostomy, are avoided. Appendicostomy should continue to grow in favor over cecostomy in all cases where prolonged irrigation of the colon is indicated.

"A CASE OF FIBROSIS OF THE RECTUM."

BY J. A. MACMILLAN, M.D., OF DETROIT, MICH.

The case presented an area of fibrous tissue an inch and one-half in width which encircled the rectum.

The lesion had occurred, was non-inflammatory, and caused no tendency to stricture.

Diagoisis. Possibly the result of syphilis.

THE REAL AND MORAL ASPECT OF ABORTION*

By MR. SIGMUND ZEISLER.

I do not claim to be a specialist on abortion. I never defended anybody in a case of abortion, and I never had anything to do with abortion, actively or passively. But having been invited to talk to you on the legal and moral aspects of the question, I have given it a little thought, and crude though my ideas may be, you are welcome to them.

The common law, which I presume you understand is the law of England as it came to us with the colonists, and as it was developed in the various states of the Union other than through statutory enactment, is radically different from the statutory law. According to the common law, for instance, up to the time of the quickening of the child, it was not criminal to produce an abortion with the consent of the mother. Even to produce a miscarriage, under any circumstances, prior to quickening of the child, was merely a misdemeanor. The statutory law in all the states of the United States, has made abortion, or the causing of miscarriage of a pregnant woman in any stage, a crime. I will confine myself to a consideration of the provisions of the Illinois statute, which reads as follows:

3. Producing. Whoever, by means of any instrument, medicine, drug or other means whatever, causes any woman, pregnant with child, to abort or miscarry, or attempts to procure or produce an abortion or miscarriage, unless the same were done as necessary for the preservation of the mother's life, shall be imprisoned in the penitentiary not less than one year nor more than ten years; or if the death of the mother results therefrom, the person procuring or causing the abortion or miscarriage shall be guilty of murder.

4. Ecbolic, or abortifacient drugs. If any druggist, dealer in medicine, or other person sells to any person any drug or medicine, known or presumed to be ecbolic or abortifacient, except on the written prescription of some well known and respectable practicing physician, or keeps on hand or advertises or exposes for sale, or sells any pills, powders, drugs or combination of drugs designed especially for the use of females, without keeping the certificate as required in the next succeeding section, he shall, for each offense, be fined not less than $50.00 nor more than $500.00, or be confined in the county jail not less than thirty days nor more than six months, or both. Provided, this section shall not be construed to apply to compounds known as "Official."

5. Certificate required. Before any pills, powders, drug or combination of drugs designed expressly for the use of females, shall be kept or exposed for sale or sold, the proprietor thereof shall submit, under oath, a true statement of the formula by which the same is compounded, to five well known and respectable practicing physicians, in the county where the same is proposed to be sold, and shall procure their certificate, signed and verified by the affidavit of each of them, that such a combination is not abortifacient; and every person keeping on hand, or in such manner advertising or exposing for sale or selling such combination, shall keep such certificate, or a sworn copy thereof, with the formula attached, for the inspection of any person desiring to see the same.

6. Advertising abortifacient drugs. Whoever advertises, prints, publishes, distributes or circulates, or causes to be advertised, printed, published, distributed or circulated any pamphlet, printed paper, book, newspaper, notice, advertisement or reference, containing words or language giving or conveying any notice, hints or reference to any person, or to the name of any person, real or fictitious, from whom, or to any place, house, shop or office where any poison, drug, mixture, preparation,

*Read before the Chicago Gynecological Society, Feb. 18, 1910. [From Surgery, Gynecology and Obstetrics, May, 1910.]

medicine, or noxious thing, or any instrument or means whatever, or any advice, information, direction or knowledge may be obtained for the purpose of causing or procuring the miscarriage of any woman pregnant with child, shall be punished by imprisonment not exceeding three years, or fine not exceeding $1.000.00.

What interests us the most is the first section of the statute. It is short but pregnant with meaning. It hardly needs interpretation.

"Whoever." That is to say the means may be employed by anybody—not necessarily a physician. The words "other means" are unimportant and without meaning. This phrase has been uniformly held to include only such means as fall within the same general class as the things specifically enumerated. The means used must be an instrument, or a medicine, or a drug. In other words, and there may be some defect in the statute in this regard, if a physician should advise a pregnant woman to ride in a poor vehicle over rough road for forty miles without stopping, with the idea that that would produce abortion, and with the intent that thereby an abortion should be produced, he would not be guilty of the crime of abortion under our statute.

The next clause in the statute is "causes any woman pregnant with child, etc.," in other words, there must be established a corpus delicti. There must be a pregnant woman, on whom somebody, by the means designated by the statute, produces an abortion or miscarriage. To you that seems quite natural, but not so to the lawyer. There are statutes in some states where there is no such provision as that the woman must be pregnant with child; it has been held that a man may be guilty of abortion, or the attempt to commit abortion, if he believes the woman is pregnant with child and does what he would do, if a woman were pregnant and he intended to produce an abortion. But under our statute, differing in that respect from the statues of many other states, it is impossible for any one to be guilty of abortion or the crime of attempting to commit abortion—and the punishment is the same in either case—unless the woman is pregnant.

Why say "to abort or miscarry?" Why this seeming tautology? There is meaning to this. Technically, a miscarriage exists when the fœtum is expelled during the first six weeks from the time of conception; the expulsion subsequent to that time is more technically designated as abortion. Under some statutes and under the common law the production of miscarriage, technically so-called, is not a crime, and it is required that a situation exist where abortion technically, so-called, is possible. In Illinois it would not make any difference how long the fœtus has existed or how much time has elapsed from the moment of conception to make the destruction of the fœtus and its expulsion the crime of abortion.

The next clause to be considered is, "unless the same were done as necessary for the preservation of the mother's life." This does not mean that anybody could produce an abortion and escape the consequences by saying he did it because it was necessary for the preservation of the life of the mother; but this much is true, that if a reputable physician, one not known to be an abortionist, should declare, under oath, that he gave medicine or performed an operation to save the mother's life, little question would arise but that his act was not a crime. But the presumption is that if anybody produce abortion it is not done for the purpose of preserving human life. Of course ultimately this is a question that must be decided by the jury in every case from all the circumstances that surround the transaction. If, for instance, the abortion has been produced by a person who advertises that he can help women in trouble, one who has been caught previously in this nefarious business, or if, perhaps, in addition to that, the victim was known to be perfectly well, no amount of swearing on the part of the one who produced the abortion that it was necessary for the preservation of the mother's life would help him

with the jury. He or she would be convicted.

In this connection an astute mind might suggest that to prevent the suicide of the mother would justify abortion in the eyes of the law. Let us suppose an unmarried woman, insane with the fear of detection of her pregnancy, threaten to commit suicide. A kind-hearted physician or a professional abortionist other than a physician, takes pity on that woman and, to save her from committing suicide, produces an abortion. This would not be a defense. It can never be told whether a woman threatening to commit suicide will do so. The law is settled that to prevent a mother from committing suicide does not fall within the clause under consideration of this and similar statutes, by which it is provided that abortion is a crime, "unless the same were done as necessary for the preservation of the mother's life."

The balance of the statute simply provides the punishment.

It is a peculiar fact, worthy of notice, that in the limited number of cases that have gone to the Supreme Court of this state wherein persons convicted of this crime have sought a review of the conviction—I do not think there are more than a dozen such cases—the prosecution was almost always for murder and not for abortion. The victim died. Of course we must not judge from this that death ensues in such an overwhelming majority of cases of abortion. What we should gather from this fact is that it is difficult to catch the fellows who are engaged in this abominable business, and that the authorities ordinarily do not wake up unless the victim dies. In reading the decision of the Supreme Court in the Hagenow case, we find that this woman had advertised in such respectable papers as the Chicago Daily News, the Record-Herald and the Examiner for years. The advertisements could not be mistaken by anybody. It was perfectly plain what was meant. Still the authorities never went for the woman, although there is a statute which makes such advertising without any act done pursuant thereto, punishable with imprisonment up to three years.

One other thing should be noticed which is peculiar to most statutes: that is, that there must be an intent to commit abortion before any particular act can be held to be an abortion. For instance, suppose a brutal husband beats his wife and as the result of that beating she miscarries, he is guilty of assault, but not of abortion, because he did not intend that an abortion or miscarriage should ensue.

A few words more on the subject of attempt, because that is significant and important. An attempt may fail, and still it is punishable under this statute and constitutes the crime of abortion, just the same as a successful attempt. For instance, if a physician should advise a pregnant woman to take ergot in large doses and she, having a very strong constitution, would not miscarry, the man who gave this advice and induced the woman to take this drug is guilty of the crime of abortion. Of course, if some ignorant person should believe that Huyler's chocolates could produce abortion, and should advise a pregnant woman to take such, although he may intend to commit abortion thereby, still he would not be guilty, because there must be some aptitude of the means employed before a man can be guilty of the attempt to commit this crime. On the other hand, suppose a man solicits a pregnant woman to take an apt medicine for the purpose of producing abortion, though she does not do it, he is guilty of an attempt to produce abortion. He has gone as far as he can; if she has not taken the advice, having the means at hand, furnished by the adviser, the latter is guilty of abortion.

One question of interest is, Is the mother who consents guilty of abortion? I have carefully looked at all the decisions of the Supreme Court of Illinois to find any light on the subject, but have failed. The statute itself would exclude the woman from guilt though she consents. It says, "Whoever causes any woman, pregnant with child, to abort or miscarry." This language does not fit the case of a wom-

an pregnant with child consenting, because she would not "cause a woman pregnant with child to abort or miscarry." But we have in this state a very broad statute defining who shall be considered an accessory to a crime.

274. Before the fact. An accessory is ne who stands by, and aids, abets or assists, or who, not being present, aiding, abetting or assisting, hath advised, encouraged, aided or abetted the perpetration of the crime. He who thus aids, abets, assists, advises or encourages, shall be considered as principal, and punished accordingly.

It is my judgment that a woman who consents and aids the abortionist in an abortion is an accessory, hence is guilty as a principal under our statute.

There is another statute under which a woman would become guilty, the statute of conspiracy, which provides that if two or more persons combine or conspire to do an illegal act, they shall be guilty of conspiracy. If a woman and a physician or an abortionist combine together for the purpose of producing a miscarriage on her, then they are guilty of conspiracy, she just as much as he.

Of course a person who furnishes medicine or an instrumen to those who are engaged in this crime, knowing that the means will be used for that purpose, though he does not advise or in any other way have anything to do with the crime, is an accessory and, under our statute, is guilty as a principal.

A word as to the moral aspect. Whenever a moral question comes up for consideration, I always like to fall back on the old Kantain categorical imperative which is about as follows: "Always act thus that the motive underlying your actions may furnish the principle for a general law." Let us apply that to the abortionist or to the woman consenting to an abortion. If the motive or principle of their action were to underlie a general law on the subject, it would mean that everybody should commit abortion and every pregnant woman should allow or consent to an abortion. What then would become of this world? Somehow or other, we are egotistic enough to think that the solar system, or at least this planet, was made for the delectation of human beings. Whether we believe that or not, it so happens that the human race rules upon this planet. Human life, in spite of vicissitudes and many sad hours, is a very beautiful thing. For centuries man has worked to produce what we call civilization, although we have not reached what will ultimately be called civilization; we have only reached a certain degree of it. That the human race should disappear from this planet is a sad thing to contemplate. That anything should ever become a general practice which would result in the total annihilation of the human race, cannot be contemplated with any degree of ease of mind. Hence it is so self-evident that abortion is wrong, that it really needs no discussion from the moral point of view.

It is wrong also because it is a violent interference with a normal, natural physiological process, an interference which is fraught with danger to life, or at least to health. Anything of that sort deserves the condemnation of all right thinking people, and certainly deserves the condemnation of the law.

But there are still other reasons, and here we must distinguish between married and unmarried life. In the case of married people, if abortion were to be sanctioned, it would be an encouragement to race suicide. Race suicide is not only mad in itself, because it most ultimately leads to the depopulation of the earth, but it is wrong for other reasons. Encourage married women to kill off the fruit of the womb, encourage them not to have any children, and you will encourage them to lead a life given to idleness and frivolities. At least in many cases women, instead of devoting themselves to the duties of motherhood, will be sitting in rocking-chairs, reading cheap novels, or going to pink teas and Kaffee Klatches. I have the old-fashioned idea that no man's or woman's life is rounded out or becomes a complete thing, a thing beautiful to contemplate, until he or she has the responsibility for the

bringing up of children, and unless he or she has the great satisfaction and delight of seeing the child they have cared for grow up and become a useful member of society. It is the only way for us to become altruists that comes easy and natural. Other forms of altruism are difficult. This is one that nature has provided and makes us better human beings.

In case of unmarried people, to sanction abortion would be to encourage licentiousness and recklessness of conduct. Fear of detection through childbirth is most often the only deterrent. If the unmarried woman believes in free love, let her have the courage of her convictions and ignore the prejudices of the world. Let her go about carrying her head erect, proud of the condition she is in as the result of giving herself to the man she loves. If she does not believe in free love, if she has had sexual intercourse with the knowledge or feeling that it is wrong, why should she be given a chance to hide her wrong? The procreation of children out of wedlock is not a thing that agrees with our views of the needs of human society. It must not be encouraged. But the existence of the practice of abortion encourages unmarried people to indulge their passions. If pregnancy ensues, the producement of abortion is not always so easy or simple, and thus this condition results in bringing children into the world out of wedlock.

Of course, the stern attitude of society is a powerful aid to abortion. Many an innocent woman is taken advantage of by a designing man, is seduced and made pregnant. In many an unmarried woman the sexual passion is a pathological condition. She is so constituted that she cannot help yield to the man she loves. Society anathematizes such women, and it is but natural that she should desire to obliterate the evidence of her so-called guilt. If I had my way about it, I would not have such a woman condemned. If I could do it, and others would help me, I would try to fight that prejudice which so generally and under all circumstances condemns an unmarried woman who gives herself to a man. And society is so hypocritical that we do not so much condemn the woman for yielding to a man as for the horrible crime of letting herself be found out. We ought to educate society not to cry anathema to every fallen woman, not to throw stones at them, and thus to drive them into the hands of the abortionist. We should rather inquire into the circumstances of each case and extend indulgence, forgiveness and helpfulness to every woman who deserves it. Unfortunately, the view of society at the present time is the reverse, and is largely responsible for the prevalence of abortion.

THE METHODS OF THE PROFESSIONAL ABORTIONIST*

By RUDOLPH WIESER HOLMES, M.D.

In general it is possible to characterize the professional abortionist by the use of three words—criminality, knavery and avarice. A man prompted to perform one transgression against the moral and civil law easily may take the downward course until his life is steeped in illegal practices. The perpetration of one criminal abortion makes the second offense less obnoxious to his ethical stamina Fraud must be met by fraud, the rewards of crooked action must be obtained by preying upon the weaknesses of human nature, and truth must be met by perjury. So we see the man who comits an illegal abortion for some specious argument and consideration finds that he must continue his offenses, he finds soon that the rewards are uncertain, and too often inadequate to compensate for the risks of

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stake—as a result he feels compelled to force an excessive reward by intimidation, coercion and even robbery. There may be professional abortionists who feel they are called to relieve the illegitimately pregnant, or the married woman who wishes to deny her maternity and who believes they are right, and who honestly, according to their light, endeavor to treat their victims with consideration and without any underhand methods of obtaining reward; but I have grave doubts of the actual existence of such. The career of the professional abortionist is so uncertain, the expenses incident to his practices so large, that he must make hay while the sun shines.

The criminality of the professional abortionist is not comprised in the production of illegal interruptions of pregnancy alone, but includes all machinations stimulated by his cupidity. In considering this topic, therefore, we naturally may view the question from two aspects, first, and really more important, the discussion of the frauds, chicanery, and thievery employed in obtaining a clientele and securing the rewards; secondly, the methods employed in the production of the felonious attack. The first is a discussion of warped character, the second, a consideration of obstetric surgery very badly done.

There are three kinds of abortionists: First, the young man who is inveigled into committing his first offenses in his pressing need of money, or prompted by the call of a friend in need; secondly, the physician who stands fairly well with a certain clientele, and who largely is engaged in ethical practice, but who symmetrically relieves his patients in order that he may hold his families; the third class comprises the professional abortionists, and is recruited by the other two, especially the second class. The discussion of the first two classes does not concern us here, but in every community there are no considerable numbers who have such professional careers; they generally are members in good standing in their local and national societies, the members of the organization know of the facts by repute and actual knowledge, but are too weak-kneed to take aggressive action for their expulsion.

This is a period of trusts, not only in the commercial world, but also in the perpetration of crime; the trite of old saw that "birds of a feather flock together" typified this long before a trust; so the abortionists likewise have their organization for offensive and defensive warfare. We have one very strong organization in those who formerly advertised extensively in the daily papers, and do so no more on account of the stop orders issued by the postoffice department; a cotorie of midwives also has its association for mutual protection; not all professional or quasi-professional abortionists are members of the guilds, but enough comprise the membership to give each a strong financial backing in cases of need. We have been informed that the legal department is strong; the members have full instruction covering the methods to be employed so incriminating evidence will not be forthcoming. They have ample defenses devised for every contingency; in the event of a prosecution the defense is ready to prove an alibi, to prove the circumstance that the statement was made before witnesses that the young woman had had an operation elsewhere, and that they had merely performed a life-saving operation, testimony is met by perjury, and too often attempts are made to influence the coroner's office or that of the State's Attorney. This influence includes that of the Masonic order, the churches, reputable men and women of every walk of life; for every exigency a rebuttal is at hand. That there is system in this is evident in that they have a headquarters which is under the direction of an efficient manager.

Until three years or more ago advertising in the daily papers was systematically carried on; some of the dailies merely printed the names, addresses and office hours of the abortionists; others hesitated not at giving glaring notices. Saturdays, generally, were devoted to giving display advertisements which all but announced in plain words that they were will-

ing to perform abortions. This was done by extolling their expertness in treating female irregularities, that confinement cases were taken, and that infants were adopted. One of the papers had a solicitor out whose sole business was to look after this end of the advertising game; regularly each week he would visit the advertisers to collect the moneys due; he sought out men of shady reputations in order to secure their notices, pointed how great was the gain, and how easily the wording could be couched to be intelligible, yet not legally obnoxious. Some years ago a detective was sent out to visit each of these advertisers; she stated she was in trouble, or at times that a friend was pregnant, and, having seen the advertisement came to see what could be done; and one only would not commit himself, and he did this because he had recently been fined, and was not looking for further trouble. It was on this evidence obtained by the Committee on Criminal Abortion of the Chicago Society that prompted the postoffice authorities to prohibit the use of the mails to the papers if they accepted further advertisements of this nature. The return must have been large, for some of these advertisers spend daily from twenty-five to one hundred dollars. The papers fully recognized these criminal advertisements, for they charged an exorbitant rate, many times over current rate for classified space. One paper which voluntarily suppressed these notices admitted their one-quarter or more of a column netted them a full $50,000.00 a year.

The fees of the abortionist depend upon what the market will bear. The midwife has a sliding scale from two dollars up; if the girl remain in the midwife's home it is twenty-five dollars; some few have more aristocratic quarters with a fee of seventy-five dollars and more for the operation and one week's board; thereafter, the charge is twenty-five dollars a week for board and nursing. Some of these fashionable places are conducted by midwives, or experienced if not trained nurses, and have a regularly appointed staff of physicians to do the work. Fees are almost invariably taken in advance, and then exorbitant charges are added for extras. Some of these establishments have very lucrative returns; the proprietor of one of them, for instance, informed our detective that she had to remove her telephone because so many applications came in that she had more work than she could attend to. Another establishment keeps a waiting list; some of the prospective patients remain in adjacent boardings houses for their turn.

One of the successful operators, at least as far as number of his victims are concerned, who is now doing time at one of our penitentiaries, robbed a girl of her jewelry; this is not a rare occurrence. Again now and then reports would reach the committee of a young woman who would enter a maternity home; soon the people would hand out excessive sympathy, and by thus ingratiating themselves would get all the facts of the girl's downfall, her real name, the name of the young man. After the girl had gone, blackmailing letters would reach her—when she was mulcted to the limit, the attack would fall upon the young man; when both had been bleed to the extremity the letters would cease. The writer has in mind one girl, above the servant class, but who entered the family of a friend as a nurse girl with the past facts of her life made known, paid about five dollars a week for nearly a year as hush money. My friend took action when he learned of the facts, which caused an immediate discontinuation of the blackmail.

In another connection it has been stated that culpability lies not in the transgression but in the fault of the discovery. This is the watchword of the abortionist. He secures his immunity from arrest by hedging himself about with safeguards. The cardinal principle of their action is never to perform an operation with witnesses present; her companion is rarely if ever allowed in the room; if discovery is made it is her word against his; if she dies he stands alone. A very popular way is for two or more operators to work in har-

mony; one will make all the arrangements for the procedure, and then when all is ready another will slip in and do the work. In Boston a cotorie of some four or five abortionists adopted this method—the operator would enter the room masked. One of these men confided in a lawyer that he and his associates were doing something like eight hundred to a thousand a year. Some others may adopt the names of those who have retired in affluence, or by ill health or death no longer need the name. This is a very popular method, especially of the woman abortionist, physician, or midwife. In going down the street and viewing the names of two midwives at the same door or in the same window, you may be fairly morally certain that this plan is in vogue. To the knowledge of the writer only one operator used an assistant; he was a man nearly eighty years of age, who for years had suffered from an aggravated paralysis agitans; it was impossible for him to keep his hand steady enough to pass the sound into the uterus, so he had a young man to do it for him; thereupon, catching the handle he gave the uterine cavity a sort of vibratory massage, with success that in 3,000 abortions he had never a failure. He met his Waterloo in his three thousand and first case—she died, and he went to the penitentiary.

In the course of the investigations of the Committee on Criminal Abortion, occasional rumors of graft reached our ears. In particular one midwife complained bitterly of the drain upon her resources by the systematic grafting of public officials; how true this was is hard to determine, but from analogy with other crimes for revenue her statement probably was true; she naively added that the collector had been a friend indeed when troubles had come to her. Some years ago the Chicago papers mentioned the name of an official who was reputed to have grafted among the abortion midwives.

In connection with this woman's statement it is really remarkable the utter fearlessness with which some of the abortionists will discuss their willingness to commit illegal operation. One man discussed the question with a young man over the phone, quoted a price, named the place where the operation should be done. With hardly an exception the matter will be discussed in personal interviews with any and all who will apply; they will tell all about their methods, their successes with no failures. Some have talked with the detective of the necessity of being careful on account of the investigations going on under the auspices of the medical society, the deaths at the hands of others were commented upon; they would occasionally "knock" each other, as some reputable physicians are prone to do.

We have another aspect of this question which is to the great discredit of the reputable medical profession; many of the abortionists, physicians, and midwives have a working agreement with members of the profession, who perhaps do not do operations, except on special occasions, but who regularly assume charge of the patients after the abortion is in progress. Some of the abortionists never will see the patients after the operation; if things do not go well they either will pretend not to know anything of the party, or will refer the case to some man who will cover up the dirty work. If death occurs and a trial is held, certain men, and well known men at that, will appear as expert witnesses, the only purpose of their presence is needlessly to befog the situation by specious argument, or even the expression of the most arrant ignorance, or tinctured with the rankest cupidity and perjury. We have in our society memberships men who are willing to demean themselves for tainted money obtained in this wise.

The methods of the production of abortions naturally follow the rules laid down in approved text-books on obstetrics for the induction of premature labor and therapeutic abortion. The method of Scheel, the rupture of the membranes, is the most popular of the physician abortionist. Some few will use a speculum, but generally the sound is passed in by guidance of the finger; the speculum is ob-

jectionable in that the hitting of the sound on the speculum creates a noise which informs the woman that instruments are used—the sound alone may be employed without her knowledge. Many disclaim the use of instruments. An essential part of the game is for the patient not to know the method employed. Next in the frequency is the passing of the catheter; this has its drawback in that the patient carries away with her the evidence which may be removed by some reputable physician.

The third method, largely restricted to the hands of the midwife, is the tent; this is not popular with the knowing ones on account of the risks of its falling into the hands of others.

The use of so-called abortifacients is generally restricted to the more ignorant midwives, who fear to use overt method of attack; the sale of these drugs is very large. In one of the places much advertised in times past the detective found a room well stocked with boxes and bottles; in pill form the usual charge is two dollars, in liquid, reputed to be more potent, the drugs cost three dollars. Some years ago a young woman called upon me to find out if it were safe for her to go into a business of this nature which already had been established some long time. She stated that the company, clear of all expenses, netted nearly a hundred dollars daily.

Many of the so-called bath parlors, hair dressing establishments, do a land office work by giving local electric treatments in the course of Turkish baths. I have in mind a number of these places where ladies are wont to congregate with each menstrual delay. Patients have told me that on taking the cure the attendant will question how long overdue they are. Some go for this avowed purpose, others have gone because they heard from friends the electric bath, locally applied, has hygienic virtues.

Irrespective of the method employed the one startling fact stands out that the professional abortionist is notoriously dirty in his work. No preliminary cleansing of the patient or the instruments is deemed necessary; sounds are taken surreptitiously from a hiding place, and passed home without regard to the risks of sepsis. This is explained on the ground that the illegal act must be quickly consummated, to prepare the patient and the instrument takes time, and may give an observing woman the opportunity of seeing how the thing is done.

Now and then the post-mortem examinations conducted by the coroner's physician have revealed most revolting injuries of the parturient tract. It is beyond belief that anyone who has followed the career of a professional abortionist with the broad experience which some have had, should be so lacking in skill that he should rupture the vagina, make repeated perforations of the uterus, or to gouge out the entire thickness of the uterine wall for a considerable area. One physician, three times to the writer's knowledge, has produced such revolting injuries. On two occasions she brought down some feet of intestine through openings large enough to admit three or four fingers. At the trial of the third death she was given twenty years.

This paper covers superficially the topic under consideration; no one knows how many deaths have resulted from illegal operations. The 40 to 60 deaths reported each year must surely be but a fractional portion of all those who die with fictitious causes of death inscribed on the death certificate.

FORENSIC DIAGNOSIS OF CRIMINAL ABORTION*

By MAXIMILIAN HERZOG, M.D.

We generally distinguish between abortion, which means the premature expulsion of the products of conception at a time when they are not yet viable, and premature delivery or partus prematuris, which means the same occurrence at an advanced period of gestation when the foetus is supposed to be viable after its entrance into the external world. We will not, in the following considerations, distinguish between these two varieties of premature expulsion of the embryo but will use the term abortion indiscriminately in its broadest sense, and it may here be stated that the statutory laws of the states of the Union and of European countries, as a rule, do not make any distinction as to the time of gestation when a criminal abortion was performed.

We speak of an abortion as spontaneous or accidental when it has been brought about by natural trinsic or external accidental causes, while we speak of it as provoked or induced when it has been brought about by artificial means employed with the object in view of a premature expulsion of the ovum and embryo. There are certain medically well-recognized indications which not only justify, but may imperatively demand the induction of premature labor. All other cases, however, where such medical indications are lacking, are looked upon by the law as criminal abortions.

The forensic diagnosis of criminal abortion has to establish two points, namely, that a gestation has been going on, and that it has been intentionally interrupted by means adapted or supposed to be adapted for this purpose. In our own country criminal abortion does rarely become the object of a forensic investigation unless the female upon whom such criminal abortion has been performed dies in consequence of it. But whether the object of criminal abortion is alive or dead, the fact of the proceeding pregnancy has to be established by objective findings and not by mere subjective statements, because these may be entirely unreliable; a woman may have some motives for simultating a previous pregnancy, or she may have been mistaken about her condition. It is a well known fact that cessation of the menses is not at all a reliable sign of pregnancy, but that a guilty conscience and purely nervous influences may be responsible for it. I have once had a chance to examine very carefully a case of this kind. A young unmarried woman, after having had intercourse with her lover, missed menstruation once. A few days after the expected flow did not appear, she stood a large dose of arsenic in the form of rough-on-rats, either with the object of producing an abortion or with suicidal intent. She died from the poison within less than twenty-four hours after taking it. The coroner's physician not caring to make a post-mortem examination, I performed a partial autopsy and secured the internal genitalia. There was neither a fresh corpus luteum nor a corpus luteum verum present, the uterus was not enlarged or very insignificantly, the mucosa was not much thickened if at all, yet it presented in one place a hemorrhagic spot which looked something like the place of implanation of a very young ovum. However, a microscopical examination of the spot in serial sections and of several other places of the uterine and tubal mucosa showed that there was not the least evidence of recent pregnancy, either uterine or ectopic. If a careful microscopic examination of this case had not been made, it would not have been ascertained beyond a doubt that it was not at all one of an early pregnancy as supposed by the unfortunate young woman herself. Similar cases of missed menstruation and other signs of supposed pregnancy in the undoubted absence of the latter have been reported by

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others; hence it is today a principle of the law, not merely in suspected criminal abortions, but in other cases of forensic bearing, that a diagnosis of pregnancy to be fully accepted, has to be based on objective findings. In women suspected of having been recently pregnant and delivered, the objective diagnosis has to be made in the first place by a careful examination of the mammary glands, the abdomen and the genitalia, but this is a subject to be discussed by the obstetrician and gynecologist, not by the pathologist. The latter may, in an unwilling witness, obtain some information of some value by a microscopic examination of the lochial discharges, which always shortly after delivery show numerous red blood corpuscles, some leucocytes, epithelia, and decidual cells, sometimes also fragments of degenerated villi. However, even this evidence is available only a short time after an abortion has occurred. When the latter has not led to a local or general infection or to any other more severe disturbance, and when the abortion has occurred in the earlier months of gestation, all objective signs will appear within one or two weeks. When, however, the object of an abortion dies shortly after the latter has occurred it is comparatively easy to establish the fact of the previous pregnancy interrupted by an abortion. But it is quite a different thing to establish that the woman came to her death consequence of a criminal and not of a spontaneous or accidental abortion. According to the statistics of various observers, spontaneous abortion occurs in one out of every four to eight pregnant women, and these figures do, undoubtedly, not include the abortions in women during the first few weeks of pregnancy; and while criminal abortion is unfortunately very common and has been practiced extensively for many centuries among civilized as well as among uncivilized nations, it is generally only taken notice of among the former if it leads to a fatal issue. It is, therefore, impossible to give any reliable statistics but we must assume that it is much more common than it can be proven and that even of undoubted cases a very small proportion only are punished.

When an abortion is induced in a woman, not on account of well-recognized medical indications, but by reasons which stamp it a criminal case, this is frequently done by incompetent persons, hastily and not in the most approved aseptic manner, safeguarding the best results as to the health and life of the woman; hence, even if a fatal infection does not occur, the products of the conception generally come away piecemeal, portions of the placenta remain behind and become the cause of long continued hemorrhages. This induces the victims of these unskillful and criminal practices to call in skilled and reputable physicians, who even when an abortion is denied, will form objective, clinical indications, curette the uterus. I have examined hundreds of such specimens of curettage following abortion, and I have never failed to recognize the presence of villi, even if they were in an advanced stage of degeneration. According to the common testimony of all who have seen much of this work, it is quite easy to diagnosticate a previous gestation interrupted by abortion, and we can, even from the finer details of the placental tissue draw some reliable conclusions as to the period at which gestation was interrupted. It is generally easy to diagnosticate a previous interrupted gestation from an autopsy combined with a microscopic examination taking in the whole thickness of the wall of the uterus, particularly at the original site of the placenta, which place is still recognizable a considerable time after the delivery, especially if infection has occurred, in consequence of which involution has been delayed. In making a diagnosis of recently interrupted pregnancy after a post-mortem examination, the size of the uterus and the size and character of the corpus luteum verum, combined with the microscopic examination, of the muscularis, the chorionic villi, and decidal tissue, will also enable us to draw quite reliable con-

clusions as to the period at which gestation was interrupted.

In the living, when parts of the embryo fall into the hands of the investigator, he is likewise often enabled, in spite of advanced degenerative changes, to fix approximately the age of the embryo from histologic details which may still be recognizable. However, it must be repeated that neither the macroscopic nor the microscopic examination generally furnish evidence of the criminal character of an abortion. The latter, whether brought about by internal abortifacients, or by mechanical means may take a course exactly like a spontaneous abortion, both may lead rapidly to a complete restitution or to a fatal septic infection. Both spontaneous and induced abortion may lead to a gradual expulsion of the products of conception with prolonged hemorrhages, and the latter may appear in both types of abortion before the expulsion of the ovum begins and both on the other hand, may lead to a complete expulsion of the ovum and the placenta at one time, not followed by any prolonged hemorrhage.

While most criminal abortions which lead to a fatal issue die of sepsis, spontaneous abortions may likewise take the same course, and while there may be a strong suspicion from external circumstances in cases of abortion following sepsis, that they are due to criminal practices, this can only be proven objectively in a small proportion of cases. Haberda, of Vienna, reports in Schmidtmann's Handb. der Ger. Mediz., that he examined between 1895 and 1903 seventy-seven cases of fatal septic peritonitis, all of which were strongly suspected of following criminal abortion. He was able to prove this by objective findings in only nine cases. In one case there was found a perforating appendicitis; the etiology of the other cases could not be cleared up so that the criminal character of the abortions could be proved by objective findings.

In fifty-two cases of another series where there was strong suspicion of criminal abortion by the aid of mechanical means, the same author found injuries to the genitalia, including perforations, in twelve cases, in the remainder no such injuries were found, and the suspicion of mechanical interference in order to produce abortion could not be verified objectively. It is, of course, held that an abortion followed in a few days by a profound septic condition is generally mechanically induced, but this can, as a rule, not be proven, even if the sepsis has led to a fatal issue in a few days and when anatomatical evidences of the mechanical interference could not have been effaced by degenerative changes. It is, however, considered an important point when it can be established by medical testimony that the symptoms of sepsis preceded the abortion. However, I am not inclined to attach too much significance to this observation. Septic microorganisms may have entered the body of a pregnant woman through the respiratory or intestinal tract, they may have been transported by the lymphatics of blood current to blood coagula in the corpus leteum, the placenta, or decidua, and may have become the starting point in the general sepsis, and have led to subsequent abortion without any mechanical interference in the internal genital organs having occurred.

It is now quite generally held that an abortion is rarely produced by the so-called medicinal or chemical abortifacients. If produced at all it is simply part of a grave general intoxication. This leads to certain symptoms which may strongly suggest the particular abortifacient employed, which may also be recognized by the sense of smell, or in many cases by exact chemical tests. After the use of such abortifacients has been established, accidental poisoning must, of course, be excluded and ulterior motive in their use must be shown. The steps in establishing a diagnosis of pregnancy and abortion are the same whether mechanical means or abortifacients have been employed.

We may summarize the forensic diagnosis of criminal abortion as far as it falls within the province of the pathologist as follows:

1. The diagnosis first has to establish that there has recently existed a pregnancy which has been interrupted by an abortion. This, as a rule, is a comparatively easy task, provided that the proper material-uterine curettings can be obtained from the living or, if we are dealing with a fatal case, that a proper post-mortem examination, both macroscopic and microscopic, is made. While ordinarily the microscopic examination of material from the living or dead, of tissues of the embryo, the placenta, the uterine wall, furnishes a picture easy to interpret, it may, if the degenerative processes are much advanced, occasionally tax the ingenuity of the expert student of the placenta. But this latter condition will not be frequently encountered; nor is the danger great to confound the products of a normal conception with a hydatid mole or a chorio-epithelioma malignum.

2. To establish from objective findings that an abortion has been due to mechanical means, criminally employed, is a different task, even in cases where a strong suspicion exists and where a fatal issue has been due to a fulminant sepsis.

3. When criminal abortion has been due to the internal use of so-called abortifacients, these may be identified by the train of toxic symptoms to which they give rise, and which will present themselves whether an abortion lead to a fatal issue or not. Most of these poisonous substances can also be identified by exact chemical tests.

4. There is no set of symptoms by which a spontaneous abortion can infallibly be distinguished from one following mechanical interference, though certain symptoms and sequelæ usually strongly point to the probability of mechanical criminal abortion.

DISCUSSION.

Dr. Charles S. Bacon: It is very desirable for us to have the views of a jurist on this subject. I was particularly interested in Mr. Zeisler's discussion of the reasons for the laws against abortion. As I understand it, the laws are based on the recognition of the value of human life. Human life is something that must be preserved. But the question then arises, Why is there a distinction between fœtal life and post-natal life? In other words, Why is not feticide the same as murder, and why should not the law recognize this by meting out the same punishment in both cases? It might be said that the law represents only the sentiment of the community, and that, therefore, a law making feticide murder could not be passed, but why should we not strive for it just the same? It is a question whether it would not be more wholesome to have the law against feticide the same as against murder. If the reason for not having such a strict law as that is that it could not be enforced, the same reasoning would lead us back to the old common law. If it is better that we should strive for a law that can be enforced, let us seek one that is not too strict.

The duties of the physician as a citizen in giving testimony in any case of abortion that may come under his notice are not clear to many. As a citizen, he should help to carry out the law. As a physician the confidence of a patient is inviolable. I think it might be well to have the legal phases of our responsibility emphasized.

Another question that I would like to bring up is one that concerned the limits of therapeutic abortion. According to the law, therapeutic abortion is recognized only when it is necessary to save the life of the mother. As a matter of fact, almost all therapeutic abortions are done to save the health of the mother. In the case of a woman with heart disease we would not expect that delivery would result in the death of the mother, but would probably seriously injure her health. As I understand it, when we operate for another reason, except to save the mother's life, we are breaking the law. If it is right to operate for the purpose of preserving the life of the mother, it should also be right to operate to preserve her health, and the law should recognize that and not make us law breakers.

Dr. Rachelle S. Yarros: Apparently these

things have existed for many generations. Morally, we have improved somewhat, yet we still have as many abortions performed as before. We also have disreputable men performing them, and we frequently have reputable men performing them. As long as the demand is present, the supply exists. It seems to me that, as rational people, we ought to face the situation and see whether there is not a solution of the problem, whether there is not something else we might do to solve the difficulty. We do not want to encourage illigitemacy, but as Mr. Zeisler said, we are frequently far too hard in some exceptional cases. I am glad he mentioned it. We, as physicians, ought to emphasize this point very often and see what can be done. I have often thought, when these cases have come to me, that instead of taking the woman and punishing her in every possible way as the responsible person, why not also punish the man? It is probably a hard burden for her—harder than she can carry. She is punished severely, and in many cases one finds that the man at the bottom is a greater sinner than is the girl, and is more responsible. Society should in some way make him responsible, at least to the extent of having him carry the burden after making him legally the father and forcing him to support the child. I am absolutely sure that if this were done many men would not be found in that position. Many women say that if they had a little support from the man they would not think of having an abortion performed. Can we not constitutionally, and with the highest morality, in definite cases, make the father responsible for the sin just as much as the mother, and if the woman is responsible when she asks for an abortion, I think that if the man who has seduced the girl knows that she will either have an abortion, or, if not, she will suffer, he should be made responsible. I think the time is coming when women will hold men responsible. Education will help a great deal more than the law. Women have hitherto been extremely ignorant on the subject of sex. It has been considered necessary for modesty's sake to keep them ignorant. The result is that they are often misled. I believe that with proper education on the subject, showing women that they are in danger of becoming pregnant, that the inevitable abortion follows, they will control themselves. I also think that education of men is of great value. If woman is the weaker, then why should the burden fall on her?

Dr. Effa V. Davis: I was glad to hear the lawyer's exposition of the law and his discussion of the moral side. But I notice that in all discussions of this subject so little attention is paid to the rights of the child. The child is the innocent party and therefore the more sinned against. We are born with two primal instincts, that of self-preservation and that of preservation of the race. We find that self-preservation is carried out by altruism; altruism being the refinement of selfishness. People who come to us and beg us to kill their unborn children certainly have not the finer instincts that they should have or rather they have missed the higher point of altruistic reasoning. This subject is not discussed in public as it should be, nor has it been written about consistently. We must educate the public. People should be taught what is right and just about sexual relations by such scientific data as physicians long have had at hand, but have withheld. As we have talked so much about the illegitimate child and felt so keenly that it is wronged, why should we not from now on labor to make the illegitimate a legitimate child by making its father a real father? I believe that a child born to healthy parents in the unmarried state should constitute a marriage.

Dr. Effie Lobdell: Mr. Zeisler struck the keynote when he spoke of the attitude of society toward the woman, and his remarks are particularly worthy of note because of the fairness in dealing with the parties concerned. It seems to me, however, that a cure will only come about when it is considered from a strictly economic standpoint, i. e., when it affects

the public financially as a problem, as to-day tuberculosis is being considered.

All over the city and country are little groups of women providing temporary homes for the care of their more unfortunate sisters. We take the perfectly normal woman, give her the best of care, and she produces a beautiful normal child, but it is a social and legal outcast. That is where our arguments are weak and everything done for its welfare seems to fail—because the law which construes the case does not hesitate to discriminate against it.

It appears that we have laws enough, but they should be revised or interpreted differently so that an injustice shall not be done unfortunate women and their most unfortunate children.

Dr. Yarros, Dr. Davis and myself feel the same on this question, because our work is along the same lines. There is a statute which aims to obtain some provisions for the child from its father, where the father can be designated, but it is an easy matter to shift responsibility. The law should be altered so that any or all persons contributing through immoral relations to the dependency of a woman should be compelled to care for her and child later.

Dr. Rudolph W. Holmes: Some three or four years ago we had a case in the Criminal Court in which the defendant was accused of producing a criminal abortion. The assistant State Attorney told me that he had carefully looked through the records and had failed to find one conviction for the production of abortion. He also informed me that in Illinois, as in most states, the woman was not a fellow conspirator, nor in any manner was she an accessory—she was merely an attached party. Some years ago, in Wisconsin, a woman went to the abortionist and had an illegal operation; on going home and informing her husband of the fact, she aroused his just indignation and resentment. A suit for malpractice was begun. At the trial the defense of the abortionist was that she consented, and consenting thereto, she was equally guilty. The case went to the State Supreme Court, which sustained the ruling of the lower court, that it was no defense that she had agreed to the illegal act, and that she was an innocently attacked party. This was a civil suit. The couple recovered $5,000.00 damages. The case was then taken to the Criminal Court, where the physician was convicted of producing an abortion, on his own sworn statement in the civil suit.

Mr. Zeisler (closing the discussion on his part): Dr. Bacon mentioned it as a defect in the law that we have no provision against feticide. I do not recall that there is a definite provision in the criminal code of Illinois on the subject. I presume that the Legislature has been under the impression that most feticides are coincident with the producing of abortion. Of course, there may be feticide other than in the shape of miscarriage. If I am not mistaken, the common law which, in the absence of statutory provision to the contrary, would still be in force, provides that a child enteutre sa mere, is capable of being appointed administrator or executor of an estate. It is recognized as a living human being after the quickening period, and the destruction of the fœtus in any way separate from abortion is, if not a crime, at least a misdemeanor. Under the common law it was a criminal act. I think that that is still so at the present time. If it is not, Dr. Bacon is right in stating that that is a defect in the law.

I presume that the preservation of health is closely associated with the preservation of life, and where a reputable physician will consider it necessary to produce a miscarriage in the interest of the health of the mother, I am inclined to think that the law would regard that as being in the interest of life, because if health is impaired, life itself is in danger. In other words, I do not regard it as a necessary element in the defense against abortion that there should be imminent danger of death. However, that also is only an impression of mine.

Every profession has its own code of ethics, and I would not presume to dictate to physicians what professional ethics makes it their duty to do under the circumstances, just as I would resent a physician who has not thoroughly considered the matter dictating to a lawyer what professional ethics demands of him. However, I do not believe that under any circumstances a physician should consider it his business to aid in the covering up of crime, if called as a witness in court. He should not attempt to invoke any so-called privilege, but should freely tell the truth.

Some one has said that the innocent child should be regarded as an important factor. I think I have not left that out of view in my discussion of this subject. It is the child that we do consider when we say that future generations must be provided for. Of course, that might be regarded as a statement of the importance to society of preserving human life. So far as the child is concerned, the fœtus has no feeling, it has no independent existence, it has no consciousness, and therefore it is to be regarded less as an individual against whom a sin can be committed than the object through which a sin is committed against society and the interests of the human race as a whole.

It is very true that the woman, according to our code of morality, is made to bear almost entirely the consequences of the illicit intercourse between man and woman. I regard that as a great reproach to our conventional morality and to the law, and the law is very deficient in that matter. If the man can be pointed out with any degree of certainty as being the father of the illegitimate child, there is a proceeding known as a bastardy proceeding, through which he can be compelled to pay to the mother, for the support of that child the princely sum of $50 a year for nine years. If the law should say that it does not want to provide any support for the mother, or for the child, through the father of the child, because thereby women will be deterred from having anything to do with men except in the married state, there might be logic in that, but the law does provide that the father of the illegitimate child may be made to pay some support. If so, why the ridiculous sum of fifty dollars a year for nine years, and no longer? Why not provide that the child shall be an heir of the father just the same as the child born in wedlock? Why not compel the father to support the child according to his means? If not to provide any support for the unfortunate woman will deter her from illicit intercourse, then to provide that the father must recognize the child and make it his heir may deter him from illicit intercourse, and I am heartily in favor that this latter view should prevail in the law.

Dr. Reed: What is the attitude of the legal profession toward the doctor as an informer or as an instigator of action in cases coming under his notice?

Mr. Zeisler: I do not know what your ethics are, but speaking from the standpoint of the needs and interests of society, I should say that the physician who obtains evidence in the course of his practice of the fact that an abortion has been committed should, by all means, place his information immediately in the possession of the State's Attorney.

Dr. Herzog (closing the discussion): I do not think that there is any necessity to continue the discussion, as far as the pathology is concerned, but I do wish to say something about the legal points which have been mentioned.

Dr. Bacon suggests that we make abortion murder. Murder, of course, consists in the killing of a human being. To look on an embryo four weeks old as a human being, seems to be an exaggerated view. Again, the law allows murder only in the act of self-defense, whether against individuals or nations. If we make the crime of abortion murder, that would prohibit the performance of an abortion under any condition, and we would have to accept the standpoint of the Catholic Church, that a living child must not be killed, no matter what the circumstances may be. It appears

to me that there are unsurmountable obstacles to be considered.

Dr. Bacon also brought out the point whether a physician who gains knowledge of an abortion having been performed, and, of course, he can only gain any reliable knowledge through his own practice, should report to the State's Attorney. The German law places the physician in his relation to his patient in the same position as the confessor stands to his parishioner. Everything he learns is secret, and the German law makes the woman just as responsible for the abortion, whether she does it alone, or whether she consults some one and has his or her assistance. She will be punishable under every condition. The woman herself is guilty of committing and permitting an abortion. How can any physician place a case before the State's Attorney when he has the full confidence of his patient, and thereby places her in the position of a criminal? That is a point to be considered, and I have spoken of it before. In my opinion, whatever is confided to a physician is not to be divulged in court under any circumstances. The relations of physician and patient ought to be those of absolute confidence.

Some of the ladies have talked very feelingly about the child. There is a way of doing away with illegitimate children; that is, of doing away with the stigma of illegitimacy. It is the plan which is prevalent in Japan. There, if a man becomes a father of an illegitimate child, he adopts the child under the general system of adopting children in Japan, and takes the woman into his own household. There are no illegitimate children in Japan, and there is no stigma connected with what we would call an illegitimate child. Any decent man who is the father of an illegitimate child, who has the feelings of a father, will, I am sure, take care of the child and of its mother. And those who will not take care of them from their own impulses, ought to be compelled by law to do so.

Gonorrhea and Sterility.

The importance of the increasing frequency of venereal diseases in cities and of proper treatment of the cases by microscopic standpoint are emphasized by B. C. Corbus, Chicago (*Journal A. M. A.*, June 4). He describes the gonococcus and says that in recent infections the microscopic demonstrations of the germ is not difficult. The other methods of staining have no advantage over Loeffler's methylene blue because they are of no value in differentiating it from other organisms. The Gram method is the only certain one for the differential diagnosis and in some cases, with only a few suspicious cocci, cultures are necessary. The most frequent cause of sterility in the male is gonorrheal epididymitis which, according to the statistics of Finger, occurs in from 7 to 14 per cent of all cases. Corbus describes the method of treating specific urethritis which he considers effective and says that if recent cases are thus treated further posterior involvement will be rare. He describes, however, the local treatment for the latter condition, insisting on the advisability of the use of a proper suspensory bandage raising the testicles well up toward the pubes. His conclusions are given as follows: "1. Specific urethritis is increasing in frequency. 2. More attention should be paid to its detailed diagnosis and treatment. 3. Methods of treatment should aim at the easiest and simplest way of combating the disease. 4. With this in view the spread of specific urethritis will be greatly lessened.

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THE DANGERS IN THE USE OF THE X-RAY.

That the few short years since the discovery of the X-ray and its wonderful usefulness, when properly handled, in both medicine and surgery, has not been sufficient to clear up its mysteries, or to teach the lessons of preservation of the operator's health, has been forcibly called to mind by the death of that brilliant specialist, Dr. M. K. Kassabian, of Philadelphia, who may be justly termed a martyr and who has lost his life in trying to solve the mysteries of these indescribable rays, and in the efforts to heal mankind by their use.

While it is always sad to note the loss of any great worker in medical thought, and the Journal joins with the profession in expressing sincerest regrets that another has been added to the long list of lives sacrificed in the cause of science, this article is more to sound a note of warning to those who are using the X-ray indiscriminately without proper experience or knowledge as to its dangers. Like all new things wherein good can come to his patrons, as well as prove a means of competency, many doctors in the last few years have purchased X-ray machines without giving a special thought or study to the subject until it is alarming to know how indifferent many of them are to the dangerous burns which, once gotten, especially if of an extensive character, rarely ever yield to any treatment, even operation, proving without avail. And it takes the loss of a human life and especially one so expert in the use of X-rays, to call attention to the dangers in the indiscriminate use which is going on all over this country daily in the hands of the non-expert. That these dangers are not fanciful, one has but to recall the fact that in 1902, after many years of experimenting with the X-ray, Dr. Kassabian got his first burn on the fingers, which was unyielding to every course of treatment, two years later necessitating amputation in so competent hands as Dr. W. W. Keen, of Jefferson Hospital. This operation was an entire failure and did not check the progress of the diseased skin which rapidly extended up the arm, involving the axillary glands, the removal of which did not prevent this terrible malady from extending into the pectoral muscles of that side, which were afterwards operated upon; none of which was effective. Notwithstanding, he was young and vigorous, and that everything from the medicinal and surgical standpoint was done to save his life, a few days ago he yielded his life up at the altar of science, adding another doctor to the long list occurring in the ranks of the profession in their never-ceasing efforts to help suffering humanity. Of course, at the present day the use of plates and the doing away with the old fluoroscope to which the operator was, of necessity, exposed in each examination, will do much to protect modern operators from the well-recognized dangers. In fact, it is absolutely necessary that the operator of the X-ray machine shall be a specialist, thoroughly equipped, not only with machines powerful enough to give results, but to insure short exposures, using seconds, where formerly hours were necessary; but they must have equipment, whereby the parts under examination can be absolutely examined apart from the rest of the body and

the rays only applied to the specific region to be examined and treated. By this means the danger can be minimized, and in the hands of experts this great discovery can still be used with safety and satisfaction. We feel it our duty to make the observation that those not properly prepared or equipped and who do not propose to make it their life study, had best let it alone. For two reasons: First, the danger to the patient and themselves in the using of an instrument of such mysterious and little-understood powers for tissue destruction; and, secondly, because in the hands of the general practitioner or surgeon, its findings and remedial applications are of doubtful value.

J. A. W.

THE PREVENTION OF TUBERCULOSIS.

No subject has ever attracted greater popular and professional interest than the prevention of the "Great White Plague." So much has been written upon it that it would seem superfluous to add anything if it were not for the fact that our efforts have not been entirely crystallized, and are rather far from being perfected. While the subject is one upon which there has been general interest for the last few years, it may be asserted that one of the earliest workers in this subject was Dr. R. W. Philip, of Edinburgh, who established there one of the first tuberculosis dispensaries twenty-three years ago, with the avowed intention of limiting the ravages of this dreaded scourge.

It is not unfitting, therefore, that the National Association for the Prevention of Consumption and Other Forms of Tuberculosis should have chosen this queen city of Scotland, as the rallying point, where its last conference has just been held. The city authorities have done a great deal there in a financial way for its Public Health Department, which is really an outgrowth of the dispensary established by Dr. Philip. Moreover, they have formed a colony in connection with the Tuberculosis Hospital in the city proper. The Hospital cares for the early cases, and a farm colony continues the work of restoration by graduated exercises when the patient is able to take them.

Aside from this additional plan, the following scheme has been adopted there, which should be considered by public health officers, as well as the profession in general, who are interested in this great work. The tuberculosis dispensaries, says the London Lancet, form the central bureau for the collection of information regarding the distribution of the disease, for the administrative control of cases, for supervision of contacts, for disinfection and general sanitary measures, and for education of the patients, and their friends in preventive measures and in treatment. In that scheme the dispensary is the centre connecting all the other activities. From the point of therapeutics merely it is the important co-ordinating part of the machine, but in the larger question of prevention its work is even more valuable and predominating.

Dr. Hermann Biggs, of New York, has also done a signal work in this country, and it is to be especially urged that a comprehensive scheme for the prevention of this malady should also include its treatment. Too much attention has been paid to the bacillus, and too little attention to the patient, in our idea of prevention. More funds should be subscribed to the various Societies, who are doing so much to educate the people in this important matter.

Unfortunately, the poor and those badly housed, constitute our greatest source of con-

tamination. Overcrowding and under-feeding is the great preventable cause and should have the careful consideration of the municipal authorities. Some writers claim that better housing would do more to prevent this disease than perhaps any other agency. Curiously enough, the fall in the death rate in consumption is a result of the striking improvement in the barracks accommodations of the English army; and the improvement in the death rate among English prisoners has been facetiously urged as a reason why a citizen had better become a soldier or a prisoner in order to escape consumption.

The City of Liverpool has done a great deal in building model tenements for the slum dwellers. Dr. Hope, the health officer, says that the people who have moved out of slums into new tenements have only had a death rate of 1.35 per 1000, which is much lower than for the city, as a whole, and much below the district in which the model dwellings are located.

While every single fasciculus of the work should be prosecuted diligently as to prevention, at the same time we must not lost sight of the enormous number of infected persons who are constantly going about among us, and who still are amenable to treatment. To these several ends the comprehensive scheme of organizing a co-ordinated effort in Edinburgh is cited.

W. D. H.

BOOK REVIEWS

The Pathology of the Living, and Other Essays.

By B. G A. Moynihan, M.S. (Lond.), F.R.S.C. Published by W. B. Saunders Co., 1910.

This little volume of 260 pages is a collection of papers which have appeared recently in various journals. A number of subjects, mostly abdominal, are discussed from the viewpoint of the operator. The author very entertainingly points out the many differences between the pathology observed by the surgeon at the time of operation and that which the pathologist meets on the post-mortem table. It is interesting to note the influence of such early observations on the diagnosis and treatment of many diseases in their incipient stages. Another fact of importance, as shown in these essays, is the rapidly decreasing number of the so-called "functional diseases" by a recognition of the fact that they are chiefly dependent upon demonstrable changes in structure. This is applied particularly to "dyspepsia" and other symptoms attributed to faulty secretions.

The publishers are to be commended for the unusually attractive appearance of the volume, which is in keeping with the very entertaining and instructive subject matter. It is of equal interest to internist and surgeon.

R. W. B.

ABSTRACTS OF CURRENT LITERATURE

Diagnosis and Treatment of Stricture of the Male Urethra.

By T. L. Deavor, Syracuse, N. Y. (N. Y. Medical Journal.)

In this article the author deviates somewhat from the lines of established literature, basing his conclusions on the clinical manifestations of his own cases.

Stricture is defined as a pathological narrowing of the urethal canal, due to injury or

disease, or both, thus excluding spasm, which though usually so classed, is not true stricture. Spasm closely simulates stricture, and the differential diagnosis is dwelt upon at some length. The most reliable indications of stricture are: Retention of urine, a small meatus, a gleety discharge, and dribbling at the end of urination. Frequently the first symptom noticed by the patient is retention of urine following intemperance in some form.

Radical treatment, except in cases of emergency, should always be preceded by cleansing of the bowels, examination of the urine, and the administration of urinary antiseptics. These measures minimize the fatal results of urethral surgery. Treatment based upon the mere size of stricture is misleading and disappointing. The pathology in each case should be studied, and the method of treatment adopted accordingly. In resilient strictures, apparent cure follows gradual dilatation, but the symptoms soon return, only to be relieved permanently by division of the stricture. Resilient stricture is due to involvement of the circular fibres just underneath the mucous membrane, and cutting is necessary for a permanent cure. Internal urethrotomy should always be done upon the roof of the urethra, being careful to cut in the median line, as here the incision will be made into nonvascular fibrous tissue. Irrigation with hot permanganate solution should follow the division.

Ordinarily stricture should not be divided in the presence of acute urethritis, but there are occasional cases in which the discharge becomes profuse after a cessation of a few weeks, in which internal urethrotomy is followed by cure of both the stricture and the urethritis. R. L. J.

PUBLISHERS' DEPARTMENT

Davis Infirmary, of Birmingham, Alabama, which will be closed during July and August for improvements and repairs, while Dr. J. D. S. Davis is on his vacation in Europe, will be reopened on the first day of September.

CHANGES IN THE PERSONNEL OF THE MEDICAL FACULTY AT THE UNIVERSITY OF PENNSYLVANIA.

The Trustees of the University of Pennsylvania have announced recently certain changes in the personnel of the teaching staff to go into effect at the beginning of the next academic session, September 1, 1910.

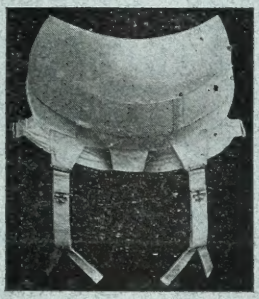
To fill the Chair of Theory and Practice of Medicine made vacant by the resignation of Dr. James Tyson, Dr. David L. Edsall has been transferred from the Chair of Pharmocology and Therapeutics and the vacancy in the latter will be filled by the appointment of Dr. A. N. Richards, now Professor of Pharmocology in the Medical School of the Northwestern University.

$100,000 has been received for the endowment of a Chair of Physiological Chemistry and Dr. Alonzo Englebert Taylor, of the University of California, will be its first occupant.

Dr. Richard M. Pearce, of the University and Bellevue Hospital Medical College of New York, has been appointed Professor of Pathology. Dr. Pearce will also direct the work of the department of Research Medicine recently established by an endowment of $200,000.

Dr. Allen J. Smith, the present Dean of the Medical School will be the occupant of the new Chair of Comparative Pathology and be at the head of the newly instituted courses in Tropical Medicine.

Dr. Paul Lewis, who will have charge of the Laboratory of the Phipps Institute for the Study, Prevention and Treatment of Tuberculosis, now an integral part of the University, has been elected Assistant Professor of Pathology.



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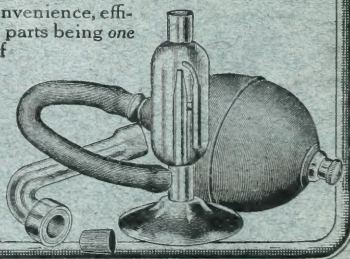

Write for our Brochure on Hay Fever.

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